Journal of Cardiovascular Disease Research

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

A STUDY OF CLINICAL PROFILE OF DILATED CARDIOMYOPATHY

[1*]DR. MAULIK PANKAJKUMAR KAPADIYA, [2]DR PARTH JANI, [3]DR RUCHI BAGAVADIYA
[4]DR. ILA N. HADIYEL

M.D. (MEDICINE)
[1,2]SENIOR RESIDENT , GOVERNMENT MEDICAL COLLEGE, BHAVNAGAR.
[3]MBBS, GOVERNMENT MEDICAL COLLEGE BARODA.
[4]ASSOCIATE PROFESSOR, DEPARTMENT OF GENERAL MEDICINE GOVERNMENT MEDICAL COLLEGE ,BHAVNAGAR.
CORRESPONDING AUTHOR: DR. MAULIK PANKAJKUMAR KAPADIYA

Abstract
Introduction: Cardiomyopathy, which affects the heart muscle predominantly but can also affect other cardiac structures, is a condition that results in impaired myocardial functioning. Up to 25% of all occurrences of heart failure can be attributed to it, making it a significant heart failure cause.
Materials and Methods: A total of 80 patients who met the inclusion criteria and were admitted to the tertiary care hospital in Bhavnagar were assessed using the history, clinical examination, electrocardiogram (ECG), and echocardiography methods.
Results: Males made up 60% of the patients and females made up 40% of those who were over the age of 60. Biventricular failure (86.25%) and left ventricular failure (10%) were both present in the clinical profile of the individuals. All of the patients' echocardiograms revealed decreased ejection fraction, global hypokinesia, and enlargement of all four chambers. Ischemic DCM, which made up 48.75% of all cardiomyopathies, was the most prevalent kind, followed by alcoholic cardiomyopathy (16.25%) and idiopathic cardiomyopathy (12%). 10% of instances of DCM had diabetes. The prevalence of peripartum cardiomyopathy is 7.5%. 5% of cases were classified as other. Tachycardia (57.5%), ectopic beats (23.75%), atrial fibrillation (13.75%), and bradycardia (5%), among other abnormalities of pulse rate rhythm. Chest x-ray, PA view showed cardiomegaly in all cases.
Electrocardiograhic profile revealed sinus tachycardia (56.25%), ventricular ectopics (51.25%), Left bundle branch block (46.25%), nonspecific ST-T changes (33.75%) and atrial fibrillation (17.25%) and right bundle branch block (13.75). Echocardiography showed reduced ejection fraction and global hypokinesia in all the patients
Conclusion: Dilated cardiomyopathy is common and an important cause of heart failure in the elderly and middle aged population and the etiology varies with age. Biventricular failure was the most common clinical presentation (86.25%) followed by left ventricular failure (10%) and then right heart failure (3.75%).The most common type was Ischaemic.
Keywords: CARDIOMYOPATHY, electrocardiogram, echocardiography, Heart Disease.

1. INTRODUCTION

Cardiomyopathies are complex diseases with historical confusion in definitions and nomenclature. Classification schemes help define relationships and distinctions, promoting clarity and understanding.
Heart failure affects 1 to 1.5% of adults, with high mortality and morbidity. Dilated cardiomyopathy causes up to 25% of cases, with males being three times more common and blacks being more common. The incidence is increasing.[1]

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

Literature classifications are often contradictory due to heterogeneity in disease presentation, resulting in no ideal schemes. A 1995 WHO-recognized classification of cardiomyopathies highlights this issue.[2]

New diseases and advances in cardiovascular diagnosis have rendered some disease definitions outdated, with the WHO classification rendered obsolete due to molecular genetics of cardiology. Ion-channelopathies are linked to lethal ventricular tachyarrhythmias. American Heart Association presents a contemporary classification of cardiomyopathies, based on recent myocardial disease characterization, providing clarity and facilitating interaction among clinical and research communities for diagnosis, prognosis, and management.

DCM's natural history is incomplete due to its diverse causes and variable presentations. Patients can have asymptomatic left ventricular dysfunction or severe congestive heart failure, with annual mortality estimates ranging from 10% to 50%. Factors should be re-examined to determine long-term outcomes.

DCM prognosis is variable, with clinical presentation and underlying etiology impacting patient outcomes. Some cardiomyopathies have excellent long-term survival, while others, like amyloidosis and HIV-related diseases, have grave prognoses.[3]

Advancements in molecular genetics identify underlying etiologies, making dilated cardiomyopathy a specific diagnosis for cardiac transplantation in the West.[4,5]

In view of high prevalence of heart failure and also lack of data on dilated cardiomyopathy this study was undertaken. The ECG and echocardiography were also evaluated in the present study.

. AIMS & OBJECTIVES

Aim:

To study the clinical profile of patients of dilated cardiomyopathy admitted in Sir T Hospital, Bhavnagar.

Objective:

1. To assess clinical profile in DCM patients.
2. To assess electrocardiographic changes in DCM patients.
3. To assess echocardiographic changes in DCM patients.
4. To assess complications in DCM patients.

. MATERIALS & METHODS

STUDY SITE

Department of Medicine, Government Medical College and Sir Takhtasinhji Hospital, Bhavnagar, Gujarat

STUDY POPULATION

The present study was conducted after Institutional Ethics committee approval on 80 patients after obtaining informed written consent from January 2021 to August 2021. The diagnosis of dilated cardiomyopathy was made on the basis of history, physical findings and echocardiographic features.

TYPE OF STUDY

It was a descriptive study in which all the patients were selected meeting the inclusion criteria for the study.

INCLUSION CRITERIA

Clinical criteria:

- Patients with symptoms and signs of heart failure.
- Age 18 years and above.

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

- Patients giving written and informed consent.

ECHO criteria:

- Left ventricular ejection fraction < 45%
- Global hyokinesiaof LV
- Dilatation of all the chambers of heart
- Left ventricular end diastolic dimension > 3 cm / body surface area.

EXCLUSION CRITERIA

- Pericardial disease.
- Corpulmonale with CHF.
- Congenital heart disease

METHODOLOGY

80 dilated cardiomyopathy cases were selected, analyzed, and clinically examined for detailed history and symptoms.

A 12 lead electrocardiogram was obtained and analysed.

A chest radiograph was obtained, examining cardiothoracic ratio, pulmonary infiltrates, pleural effusion, and pleural effusion. Echocardiograms were performed, examining chamber dimension, EF, and global hypokinesia. Results were interpreted.

Myocardial infarction in the past or severe luminal blockage (>70%) seen on coronary angiography were used to support the diagnosis of ischemic DCM.

Peripartum cardiomyopathy is diagnosed using Demakis et al's criteria,[1] including heart failure in the last month or within 5 months of delivery[2], absence of identifiable heart disease, classical left ventricular dysfunction, and no other identifiable causes of heart failure.[4]

Patients with long-standing (>10 years) diabetes mellitus were given the diagnosis of diabetic cardiomyopathy if there was no other clear reason. Similar to this, alcoholic cardiomyopathy was diagnosed in patients with echocardiography-proven dilated cardiomyopathy and a history of long-term (> 10 years) alcohol consumption. If no evident cause could be identified, they are classified as having idiopathic DCM.

The clinical profile, likely etiology, radiographic, electrocardiographic, and echocardiographic findings were summarized and compared with the available information.

RESULT AND DATA ANALYSIS

TABLE 1: AGE DISTRIBUTION OF PATIENTS

Age in years	Number of patients
18-29	4 (5%)
30-39	9 (11.25%)
40-49	8 (10.0%)
50-59	16 (20.0%)
≥60	43 (53.75%)
Total	**80 (100%)**
Mean Age (yrs)	**55.92 ± 12.47**

The distribution reveals that the age group 50-59 was followed by the age group above the sixth decade, where the peak incidence was 43 (53.75%) and 16 (20%). The age distribution was 55.92 12.47 years on average.

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

TABLE 2: GENDER DISTRIBUTION OF PATIENTS

Gender	Number of patients
Male	48 (60%)
Female	32 (40%)
Total	**80 (100%)**

The male to female ratio was 1.5:1 out of 80 patients, with 48 (60%) being male and 32 (40%) being female.

TABLE 3: PAST HISTORY WISE DISTRIBUTION

Past History	Number of patients (n=80)
DM	22 (27.5%)
IHD	39 (48.75%)
Alcohol intake	30 (37.5%)

Out of 80 patients, 39 (48.75%) had a history of myocardial infarction. 22 (27.5%) of them have diabetes, and 30 of them (37.5%) are alcoholics.

TABLE 4: SYMPTOMS WISE DISTRIBUTION

Symptoms	Number of patients (n=80)
Dyspnoea	80 (100%)
PND	46 (57.5%)
Orthopnoea	39 (48.75%)
Palpitation	51 (63.75%)
Chest pain	32 (40%)
Cough	50 (62.5%)
Abdominal pain	29 (36.25%)
Easy fatiguability	65 (81.25%)
Syncope	15 (18.75%)
Pedal edema	52 (65%)
Misc	23 (28.75%)

Exertional dyspnea was a presenting symptom for every subject in our study. The second most prevalent symptom, easy fatigability, was seen in 65 (81.25%) of participants, followed by pedal edema in 52 (65%) of patients. Palpitations were noticed in 51 (63.75%) people, along with coughing in 50 (62.5%), while 46 (57.5%) reported having a history of paroxysmal nocturnal dyspnea.

Syncope 15 (18.75%), orthopnea 39 (48.75%), chest discomfort 32 (40%), stomach pain 29 (36.25%), and miscellaneous in 23 (28.75%).

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

TABLE 5: PHYSICAL FINDINGS WISE DISTRIBUTION

Physical findings	Number of patients (n=80)
Basal Crepitations	72 (90%)
Raised JVP	56 (70%)
Pedal edema	52 (65%)
Hepatomegaly	43 (53.75%)
LV S3	39 (48.75%)
RV S3	19 (23.75%)
PSM	39 (48.75%)
SBP<100 mmHg	28 (35%)

About 72 (90%) of the individuals showed basal crepitation. 52 people (65%) had visible pedal edema. Hepatomegaly was found in 43 (53.75%) and raised JVP in 56 (70%) of the cases. 39 patients (48.75%) had an apical pan systolic murmur, of whom 19 (23.75%) had RVS3 and 39 (48.75%) had LVS3. In 28 (35%) cases, systolic blood pressure was less than 100 mmHg.

TABLE 6: NYHA CLASS WISE DISTRIBUTION

NYHA Class	Number of patients
Class I	2 (2.5%)
Class II	16 (20%)
Class III	29 (36.25%)
Class IV	33 (41.25%)
Total	**80 (100%)**

The majority of the participants in our study fell into NYHA Class IV 33 (41.25%), next Class III 29 (36.25%), and finally Class II 16 (20%).

TABLE 7: PERIPHERAL PULSE

Pulse	No. of patients (n=80)
Tachycardia	**46 (57.5%)**
Bradycardia	**4 (5%)**
AF	**11 (13.75%)**
Ectopic beats	**19 (23.75%)**

Bradycardia, tachycardia, ectopic beats, pulse alternans, and atrial fibrillation were among the abnormalities of the peripheral pulse. 19 people (23.75%) had ectopic beats, 46 people (57.5%) had tachycardia, and 11 people (13.75%) had atrial fibrillation. In 4 (5%), bradycardia was observed.

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

TABLE 8:ECG WISE DISTRIBUTION

Parameters		Number of patients (n=80)
QRS Axis	Normal	57 (71.25%)
	Left axis deviation	14 (17.5%)
	Right axis deviation	9 (11.25%)
Arrhythmias	Sinus tachycardia	45 (56.25%)
	Atrial ectopics	8 (10%)
	AF	14 (17.25%)
	SVT	4 (5%)
	Ventricular ectopics	41 (51.25%)
	CHB	3 (3.75%)
	LBBB	37 (46.25%)
	RBBB	11 (13.75%)
ST-T Changes		27 (33.75%)
Atrial enlargement	LAE	12 (15%)
	RAE	5 (6.25%)
Ventricular hypertrophy	LVH	19 (23.75%)
	RVH	8 (10%)
	Both	5 (6.25%)

Rate, rhythm, axis, and chamber enlargement anomalies are all part of the electrocardiographic profile. Ventricular ectopics were the most frequently observed anomaly, occurring in 41 (51.25%) of the patients. There was sinus tachycardia in 45 (56.25%) of the individuals. 37 (46.25%) patients had a left bundle branch block. 11 (13.75%) individuals displayed a right bundle branch block. While AF was present in 14 (17.25%) cases, non-specific ST-T alterations were found in 27 (33.75%) of those cases. Twelve (15%) of the participants had LAE, while 19 (23.75%) of the subjects had left ventricular hypertrophy. Only 3 (3.75%) individuals had complete cardiac block. The majority of patients had an axis that was nearly normal. 14 (17.5%) cases of left axis deviation and 9 (11.25%) cases of right axis deviation were noted.

TABLE 9: ECHOCARDIOGRAPHY WISE DISTRIBUTION

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

Parameter	Range	No. of Patients (n=80)
EF	40 - 45%	**15 (18.75%)**
	30 - 39%	**28 (35.5%)**
	20 - 29%	**31 (38.75%)**
	< 20%	**6 (7.5%)**
LVEDD	4.5 - 4.9 cm	**11 (13.75%)**
	5.0 - 5.9 cm	**28 (35%)**
	≥ 6 cm	**41 (51.25%)**
LVSD	3.5 - 4 cm	**11 (13.75%)**
	4.1 - 4.9 cm	**28 (35%)**
	≥ 5 cm	**41 (51.25%)**
MR		**48 (60%)**
TR		**6 (7.5%)**
AR		**2 (2.5%)**

It was discovered that the average left ventricular ejection fraction was 31.61%. In 7.5% of patients, the LV ejection fraction was less than 20%. 38.75% of patients had it between 20 and 29%, 35.5% had it between 30 and 39%, and 18.75% had it between 40 and 45%. The majority of individuals (51.25%), or 5.99 0.76 cm, had LV end diastolic diameters greater than 6 cm. The majority of patients (51.25%) had an end systolic diameter more than 5 cm, and the mean LVESD was 4.88 0.62 cm. Nearly majority of the patients had global hypokinesia and all 4 chambers were dilated. In our study, tricuspid regurgitation affected 7.5% of patients, while mitral regurgitation affected 60% of patients.

TABLE 10: HEART FAILURE WISE DISTRIBUTION

Heart Failure	Number of patients
LVF	8 (10%)
RVF	3 (3.75%)
Biventricular	69 (86.25%)
Total	**80 (100%)**

TABLE 11: AETIOLOGY WISE DISTRIBUTION

Aetiology	Number of patients
Ischemic	39 (48.75%)
Alcoholic	13 (16.25%)
Idiopathic	10 (12.5%)
Diabetic	8 (10%)
Peripartum	6 (7.5%)
Miscellaneous	4 (5%)
Total	**80 (100%)**

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

In our investigation, ischemic dilated cardiomyopathy, accounting for 48.75% of all cardiomyopathies, was shown to be the most prevalent kind of dilated cardiomyopathy, followed by alcoholic cardiomyopathy (16.25%) and idiopathic DCM, which was observed in 12.5% of participants. Cardiomyopathies related to diabetes and childbirth were both observed in 10% and 7.5% of cases, respectively. Four patients (5%) were included in the miscellaneous group, including two cases of HIV cardiomyopathy and two cases of valvular cardiomyopathy (mitral regurgitation and aortic regurgitation, respectively).

6. DISCUSSION

In the current study, 80 patients hospitalised to Sir T Hospital, Bhavnagar, had their clinical presentation, ECG, and echocardiographic abnormalities evaluated in order to ascertain the aetiology of dilated cardiomyopathy.

AGE AND GENDER DISTRIBUTION:

Study	Age in years	Males	Females
Sonowal N et al[61]	50.17	61.29%	38.71%
Dudharejia PJ et al[62]	51.04	66%	34%
Saha KK et al[63]	56.57	56.33%	43.25%
Boyilla V et al[64]	56.88	56.6%	43.3%
Present study	55.92	60%	40%

In the present study, age incidence was more in the elder age group > 60 years (53.75%) with dilated cardiomyopathy which is compared to the other studies. The present study, mean age 55.92 years with higher in male patients of DCM. The observation was similar to **Sonowal N et al[6], Dudharejia PJ et al[7], Saha KK et al[8],** and **Boyilla V et al[9]**studies which was described in table above.

India's urbanization, junk food consumption, and reduced physical activity are contributing to an increase in DCM prevalence. Elevated testosterone levels in men increase cardiac inflammation and fibrosis, leading to heart failure. Men with DCM have higher cardiac expression of apoptosis proteins, resulting in minimal improvement in LVEF.

SYMPTOMS DISTRIBUTION:

Symptoms	Present Study	Tomar SS et al[10]	Dudharejia PJ et al[7]	Kumar D et al[11]	Saha KK et al[8]	Mohanty NK et al[12]
Dyspnea	100%	100%	100%	100%	100%	100%
PND	57.5%	60%	66%	60%	60%	60%
Orthopnea	48.75%	26%	66%	53.3%	53.3%	52%
Palpitation	63.75%	60%	18%	56.6%	56.6%	44%
Chest pain	40%	40%	46%	40%	40%	36%
Cough	62.5%	60%	26%	60%	60%	-
Abdominal pain	36.25%	32%	36%	33.3%	33.3%	-
Easy fatigability	81.25%	82%	86%	83.3%	83.3%	80%
Syncope	18.75%	16%	16%	16.6%	16.6%	16%
Pedal edema	65%	70%	68%	70%	70%	64%
MISC	28.75%	6%	-	23.3%	23.3%	-

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

All the patients in this study presented with exertional dyspnea. Easy fatigability was observed in 81.25% of subjects constituting the next most common symptom followed by pedal edema in 65% of patients. Palpitation were seen in 63.75% and cough in 62.5% followed by history of paroxysmal nocturnal dyspnea in 57.5%. Orthopnea 48.75%, chest pain 40%, abdominal pain 36.25% and syncope 18.75% and miscellaneous in 28.75%. The studies conducted by **Tomar SS et al[10], Dudharejia PJ et al[7], Kumar D et al[11], Saha KK et al[8], and Mohanty NK et al[12]** have a similar results all the patients presented with exertional dyspnea followed by Easy fatigability followed by pedal edema. Remaining symptoms as Palpitation, cough, history of paroxysmal nocturnal dyspnea, orthopnea, chest pain, abdominal pain and syncope and miscellaneous were seen in above table.

Exercisional dyspnea, a condition characterized by impaired lung and systemic organ perfusion due to reduced cardiac output, can lead to easy fatigability and pedal edema, where the heart's lower chambers lose their ability to effectively pump blood, causing edema in legs, ankles, and feet.

PHYSICAL FINDINGS DISTRIBUTION:

Physical findings	Present Study	Tomar SS et al[10]	Rana H et al[13]	Dudharejia PJ et al[7]	Saha KK et al[8]
Basal Crepitations	90%	94%	93.33%	78%	93.33%
Raised JVP	70%	72%	83.33%	66%	73.3%
Pedal edema	65%	76%	78.33%	72%	76.6%
Hepatomegaly	53.75%	46%	80%	42%	46.6%
LV S3	48.75%	46%	-	40%	46.6%
RV S3	23.75%	20%	-	-	20%
PSM	48.75%	46%	-	26%	46.6%
SBP<100 mmHg	35%	26%	-	16%	26.6%

In the current study, over 90% of the participants displayed physical symptoms, including basal crepitation. 65% of patients had pedal edoema. Hepatomegaly and raised JVP were seen in 53.75% and 70%, respectively. LVS3 was detected in 48.75% of patients with an apical pan systolic murmur, while RVS3 was observed in 23.75% of patients. 35% of patients had systolic blood pressure that was under 100 mmHg.

The similar observation was seen in **Tomar SS et al[10], Dudharejia PJ et al[7], and Saha KK et al[8]**studies while Hepatomegaly was higher in study by **Rana H et al[13]**. The observation were discriminate in above table.

NYHA CLASS DISTRIBUTION:

NYHA Class	Present Study	Sonowal N et al[6]	Mohanty NK et al[12]	Kumar D et al[11]
Class I	2.5%	0%	4%	3.3%
Class II	20%	22.58%	16%	16.6%
Class III	36.25%	48.39%	48%	33.3%
Class IV	41.25%	29.03%	32%	46.6%

In present study majority of the patients were in NYHA class IV 41.25% followed by NYHA class III 36.25% then NYHA Class II 20%. Whereas in **Sonowal N et al[6]**study majority of the patients were in NYHA class III 48.39% followed by NYHA class IV 29.03% then NYHA Class II

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

22.58%. **Mohanty NK et al[12]** conducted a study in which NYHA class III 48% followed by NYHA class IV 32%, NYHA class II 16% and NYHA class I 4%. In **Kumar D et al[11]** study majority of the patients were in NYHA class IV 46.6% followed by NYHA class III 33.3% then NYHA Class II 16.6% and NYHA Class I 3.3%.

PULSE DISTRIBUTION:

Pulse	Present Study	Saha KK et al[8]
Tachycardia	57.5%	**46.6%**
Bradycardia	5%	**3.3%**
AF	13.75%	**13.3%**
Ectopic beats	**23.75%**	**36.8%**

Bradycardia, tachycardia, ectopic beats, pulsus alternans, and atrial fibrillation are examples of abnormal peripheral pulses. 23.75% of people had ectopic beats, 57.5% had tachycardia, and 13.75% had atrial fibrillation. 5% of people had bradycardia. Ectopic beats were seen in 36.8% of cases, tachycardia was seen in 46.6%, and atrial fibrillation was seen in 13.3%, according to a research by Saha KK et al.[63]. 3.3% of people experienced bradycardia.

ECG DISTRIBUTION:

Parameters		Present Study	Kumar D et al[11]	Mohanty NK et al[12]	Sonowal N et al[6]
QRS Axis	Normal	71.25%	80%	-	**45.16%**
	Left axis deviation	17.5%	13.3%	-	**48.39%**
	Right axis deviation	11.25%	6.6%	-	**6.45%**
Arrhythmias	Sinus tachycardia	56.25%	40%	44%	**-**
	Atrial ectopics	10%	10%	-	**6.45%**
	AF	17.25%	13.3%	20%	**22.58%**
	SVT	5%	6.6%	12%	**-**
	Ventricular ectopics	51.25%	46.6%	40%	**9.68%**
	CHB	3.75%	3.3%	2%	**-**
	LBBB	46.25%	40%	36%	**-**
	RBBB	13.75%	13.3%	16%	**-**
ST-T Changes		33.75%	26.6%	-	**45.16%**
Atrial enlargement	**LAE**	**15%**	**13.3%**	**32%**	**25.81%**
	RAE	**6.25%**	**6.6%**	**10%**	**9.68%**
Ventricular hypertrophy	**LVH**	**23.75%**	**20%**	**30%**	**41.94%**
	RVH	**10%**	**6.6%**	**8%**	**6.42%**
	Both	**6.25%**	**3.3%**	**4%**	**3.23%**

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

Electrocardiographic profile: The QRS axis was normal in 71.25% of our subjects with left axis deviation in 17.5% and right axis deviation in 11.25% which were in concordance with **Kumar D et al[11]** but contrast with **Sonowal N et al[6]**study.

Sinus tachycardia was the most consistent finding in the **Kumar D et al[11]** study being found in up to 40% of patients. Our study showed sinus tachycardia in 56.25% of patients. Other ECG parameters like ventricular ectopics, LBBB, Atrial fibrillation, atrial ectopics were more common comparable to those in all the other studies such as **Kumar D et al[11] and Mohanty NK et al[12]**. However ,SVT was less commonly present in our study as compared to **Kumar D et al[11] and Mohanty NK et al[12]**. LVH was also less common, present in 23.75% as compared to 41.94% in **Sonowal N et al[6].**In addition, Non-specific ST-T changes were seen in 33.75% of cases, similar to that in **Sonowal N et al[6]** study.

ECHO DISTRIBUTION

Parameter	Range	Present Study	Tomar SS et al[10]	Kumar D et al[11]	Mohanty NK et al[12]
EF	40 - 45%	18.75%	16%	16.6%	-
	30 - 39%	35.5%	36%	36.6%	**52%**
	20 - 29%	38.75%	40%	40%	**40%**
	< 20%	7.5%	6%	6.6%	**8%**
LVEDD	4.5 - 4.9 cm	13.75%	13%	13.3%	**16%**
	5.0 - 5.9 cm	35%	33%	33.3%	**44%**
	≥ 6 cm	51.25%	53%	53.3%	**40%**
LVSD	3.5 - 4 cm	13.75%	20%	20%	-
	4.1 - 4.9 cm	35%	32%	33.33%	-
	≥ 5 cm	51.25%	14%	46.6%	-
MR		60%	74%	73.3%	**80%**
TR		7.5%	10%	10%	**20%**
AR		**2.5%**	**6%**	**6.6%**	-

The study found a mean left ventricular EF of 31.61%, similar to other studies on dilated cardiomyopathy. The mean LVEDD was 5.99 cm, and mitral regurgitation was seen in 60% of patients, more commonly than tricuspid regurgitation. Two patients had AR, compared to 6.6% in a previous study. Mitral and tricuspid regurgitation in dilated cardiomyopathy are secondary to annular ring dilatation.

HEART FAILURE DISTRIBUTUION

Heart Failure	Present Study	Mohanty NK et al[12]	Tomar SS et al[10]	Saha KK et al[8]
LVF	10%	20%	16%	16.6%
RVF	3.75%	4%	3%	3.3%
Biventricular	86.25%	76%	80%	80%

The most common presentation in our study was found to be biventricular failure which was seen in 86.25% of cases which was similar to other studies such as **Mohanty NK et al[12], Tomar SS et al[10]** and **Saha KK et al[8].** Isolated left ventricular failure was seen in 10% of

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

patients, most of them were ischemic DCM. Predominant right ventricular failure was seen in three patients with alcohol cardiomyopathy.

AETIOLOGY DISTRIBUTUION

Aetiology	Present Study	Dudharejia PJ et al[7]	Ganesh N et al[14]	Saha KK et al[8]
Ischemic	48.75%	-	-	33.3%
Alcoholic	16.25%	12%	22%	6.6%
Idiopathic	12.5%	74%	50%	13.3%
Diabetic	10%	12%	10%	23.3%
Peripartum	7.5%	2%	14%	16.6%
Miscellaneous	5%	-	4%	6.6%

The study found that ischemic dilated cardiomyopathy was the most common type, present in 48.75% of patients, followed by alcoholic cardiomyopathy in 16.25%. Idiopathic cardiomyopathy was the third most common type, with diabetic and peripartum cardiomyopathy in 10% and 7.5% respectively. The miscellaneous group included four patients with HIV and valvular cardiomyopathy.

In **Saha KK et al[8]** study ischemic cardiomyopathy comprised 33.3% of cases followed by diabetic dilated cardiomyopathy seen in 23.3% of patients. The incidence of idiopathic DCM in their study was much higher compared to our study. Other sub groups of DCM were comparable to our study.

A study examined 39 patients with ischemic cardiomyopathy, all of whom had a history of previous myocardial infarction. All had significant narrowing of epicardial coronaries, with 28 patients having double vessel disease, eight having triple vessel disease, and three having single vessel disease. Echocardiography revealed global hypokinesia and reduced ejection fraction. Liver function tests showed mildly raised bilirubin and normal liver enzymes.

7. SUMMARY

The study analyzed patients with heart conditions, with the majority being elderly (53.75%), followed by those aged 50-59 (20%). The mean age was 55.92 ± 12.47 years, with 60% of patients being male and 40% female. Myocardial infarction was the most common history in 48.75% of patients. Most patients had exertional dyspnea and easy fatigability (81.25%). Abnormalities of peripheral pulse included Bradycardia (5%), atrial fibrillation (13.75%), ectopic beats (23.75%), and sinus tachycardia (57.5%). ECG examination revealed ventricular ectopics (51.25%), sinus tachycardia (56.25%), left ventricular hypertrophy (23.75%), and left ventricular hypertrophy (15%). Complete heart block was present in only 3.75% of patients. The mean left ventricular ejection fraction (LVEF) was 31.61%, with LV ejection fraction less than 20% in 7.5% of patients. Ischemic dilated cardiomyopathy was the most common cardiomyopathy, followed by alcoholic cardiomyopathy (16.25%) and idiopathic DCM (12.5%). Diabetic cardiomyopathy was seen in 10%, and peripartum cardiomyopathy was seen in 7.5%. Miscellaneous cases included four cases, including two cases of valvular cardiomyopathy and HIV cardiomyopathy.

8. CONCLUSION

In our study, ischemic cardiomyopathy was revealed to be the most common cause of dilated cardiomyopathy, followed by alcoholic and idiopathic cardiomyopathy. Biventricular

ISSN: 0975-3583,0976-2833 VOL14, ISSUE 09, 2023

failure is the most prevalent clinical manifestation. The majority of patients had cardiomegaly shown by chest radiography. The most common ECG abnormalities are sinus tachycardia, AF, and LBBB. ECHO revealed decreased EF and widespread hyperkinesia across the board. A large percentage of individuals had mitral regurgitation and pericardial effusion. The majority of the patients had NYHA class IV.

Reference:

2. Anderson KM, Kannel WB. Prevalence of congestive heart failure in Framingham Heart study subjects. Circulation 1994;13: S107-S112.
3. Richardson P, McKenna W, Bristow M, et al. Report of the 1995 World Health Organization/International Society and Federation of Cardiology Task Force on the Definition and Classification of Cardiomyopathies. Circulation. 2004;93:841.
4. Vijayraghavan G. API Text book of medicine. Disorders of myocardium. 8th ed Chap 1X.27: 572-577.
5. Kothari S, Aajesh A, Saxena A, Juneja R. Dilated cardiomyopathy in Indian children. Indian Heart J 2003; 55 : 147.
6. WHO / ISFC. Task force on cardiomyopathies. Report of the WHO / ISFC. Taskforce on the definition and classification of cardiomyopathies. Br. Heart journal 1980 ; 44 : 672-673.
7. Sonowal N, Dharma Rao V. Clinical Profile of Patients with Dilated Cardiomyopathy in a Tertiary Care Center in North East India. Journal of Evolution of Medical and Dental Sciences 2014; 30(3):378-386.
8. Dudharejia PJ, MNandania S. Clinical profile of patients with Dilated Cardio Myopathy (DCM)-A study of 50 cases. Journal of Research in Medical and Dental Science. 2016 Jul 1;4(3):257-9.
9. Saha KK, Kumar A, Sneha K, Kumar P, Mishra AK, Tiwari MK, Roshan R. A Clinical Study Of Dilated Cardiomyopathy With Correlation to Electrocardiography and Echocardiography: A Cross Sectional Study. Int J Sci Stud 2018;5(11):91-95.
10. Boyilla V, Mogarala RR. A Study of Clinical Profile of Dilated Cardiomyopathy in Correlation with ECG and Echocardiography. Journal of Dental and Medical Science 2019;18: 56-60.
11. Tomar SS, Chauhan M. A Study to assess clinical and echocardiographic profile of patients with dilated cardiomyopathy. JMSCR 2019: 07(1);1063-1065.
12. Kumar D, Vidyapati J, Prasad ML, Kumar M. An Etiological Study of Dilated Cardiomyopathy in Correlation with Clinical, ECG and Echocardiographic Profile. Journal of Dental and Medical Sciences. 2017:16(5);32-36.
13. Mohanty NK, Dash BK, Satpathy C, Routray SN. Dilated Cardiomyopathy: Aetiology, Clinical Presentation, ECG and Echo Cardiographic Evaluations Our Experience in a Tertiary Care Hospital. JMSCR 2019:7(7);636-639.
14. Rana H, Rathod C, Chavda P, Patel S, Deshpande S. Clinical profile of Dilated Cardiomyopathy patients presenting to a tertiary care hospital from central Gujarat. Int J Res Med. 2015;4(2):143-6.
15. Ganesh N,Rampure DM,Rajashekarappa. Etiological study of dilated cardiomyopathy in a tertiary care hospital. J Pharm Biomed Sci. 2014;04(10):910-913.