

## Original Article

## Clinical profile of patients with Dilated Cardio Myopathy (DCM) –A study of 50 cases

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### ABSTRACT

**Background:** In view of the high prevalence of chronic heart failure and underlying dilated cardiomyopathy and the lack of data on Dilated Cardio Myopathy (DCM) this study was undertaken.

**Aims:** To rule out the clinical profile of patients with dilated cardiomyopathy.

**Methods:** This was a descriptive hospital-record based cross sectional study involving a total of 50 patients with dilated cardiomyopathy from May 2013 to May 2016. The data analysis was done in Microsoft excel sheet.

**Results & conclusion:** Dilated cardiomyopathy was observed at all age groups but more common in middle aged and elderly population. It is more common in males. The most common type is idiopathic cardiomyopathy followed by diabetic, alcoholic and peripartum cardiomyopathy. The common presenting symptoms include exertional dyspnoea, easy fatigability and pedal edema.

**Keywords:** Dilated cardiomyopathy, Congestive heart failure, Idiopathic DCM, Diabetic DCM , Alcoholic DCM

### INTRODUCTION

Cardiomyopathies are defined as “a heterogeneous group of diseases of the myocardium associated with mechanical and/or electrical dysfunction that usually (but not invariably) exhibit inappropriate ventricular hypertrophy or dilatation and are due to a variety of causes that frequently are genetic [1].

Dilated cardiomyopathy is characterized by an enlarged left ventricle with decreased systolic function as measured by left ventricular ejection fraction. Systolic failure is more marked than diastolic dysfunction [1]. They are distinctive because they are not the result of Valvular, hypertensive, congenital or ischaemic heart disease. The incidence of DCM is reported to be 5 to 8 cases per 1, 00,000 population per year. It occurs 3 times more frequently in males as compared to females. It is also more common in blacks [2].

Exact epidemiological data on dilated cardiomyopathy in India are lacking. So it is worth to study a clinical profile of dilated cardiomyopathy in our patients to have an idea about different etiological prevalence and clinical presentation.

### MATERIALS AND METHOD

**Study design:** Current study was a descriptive cross sectional hospital record based study.

**Study participants and sample size:** This study consists of 50 cases of dilated cardiomyopathy admitted to P.D.U. Medical College & Hospital, Rajkot, Gujarat.

**Study period:** The study participants were recruited over a period of 3 years from May 2013 to May 2016.

**Data collection method:** The study proforma was developed. The data for the study was obtained by retrospective analysis of the hospital records of the patients admitted to the hospital during May 2013 to May 2016.

**Study variables:** This being a descriptive study the primary objective was to study the clinico-demographic profile of the patients with dilated cardiomyopathy. A detailed history was recorded in each patient with emphasis on habits, diet and history of any illness like diabetes mellitus and endocrine disorders. In females menstrual and obstetrics history was recorded. Apart from complete blood count, FBS / PPBS, renal function tests, X-ray chest (PA view), ECG and 2D Echocardiography with colour Doppler was done in all patients.

**Data management and Statistical analysis:** The data thus collected were entered and analyzed in Microsoft Office Excel. The study reports

proportions of the variables under study in percentages.

**Ethical clearance:** Ethical clearance has been taken from the institutional committee

## RESULTS

The following section shows the results of the analysis of 50 patients with dilated cardiomyopathy.

**Table 1: Age and Sex Wise Distribution**

Age	Male (%, n=50)	Female (%, n=50)	Total (%)
1 -19	2 (4%)	2(4%)	4 (8%)
20-39	4(8%)	4(8%)	8 (16 %)
40-59	16(32%)	3(6%)	19 (38 %)
>60	11(22%)	8(16%)	19 (38 %)
<b>Total</b>	<b>33(66%)</b>	<b>17(34%)</b>	<b>50(100%)</b>

The demographic indicators collected were age and gender of the patients. As can be seen from **table 1**, male patients outnumbered the female patients. Male: Female ratio was found to be 1.94:1. If we look at the age-wise distribution almost three fourth of the patients are from the 40 plus age group.

**Table 2: Symptomatology of patients**

Symptoms	N=50 (%)
<b>Exertional dyspnoea</b>	50(100)
<b>Easy fatigability</b>	43(86)
<b>Pedal oedema</b>	34(68)
<b>PND</b>	33(66)
<b>Orthopnoea</b>	33(66)
<b>Chest pain</b>	23(46)
<b>Abdominal pain</b>	18(36)
<b>Cough</b>	13(26)
<b>Palpitation</b>	9(18)
<b>Syncope</b>	8(16)
<b>Asymptomatic</b>	0(0)

When we look at the presenting symptoms for these patients, we observe that almost all patients presented with three basic symptoms i.e. exertional dyspnoea, easy fatigability and pedal edema, Orthopnoea, P.N.D and chest pain was also reported by almost half of the patients as shown in **table-2**.

**Table 3: Signs on physical examination**

Signs	N=50 (%)
<b>Basal crepitations</b>	39(78)
<b>Pedal edema</b>	36(72)
<b>Raised JVP</b>	33(66)
<b>Hepatomegaly</b>	21(42)
<b>LVS3</b>	20(40)
<b>Pan systolic murmur at apex ( MR )</b>	13(26)
<b>Pan systolic murmur at tricuspid area (TR )</b>	8(16)
<b>SBP &lt; 100 mmhg</b>	8(16)

**Table 3** shows that basal crepitations were seen in almost 78% of the subjects. Pedal edema was present in 72%. Raised JVP was seen in 66% and hepatomegaly in 42%. LVS3 was present in 40% while apical pansystolic murmur seen in 26%. Pansystolic murmur in tricuspid area (TR) was seen in 16%. Systolic blood pressure < 100 mmHg was seen in 16%.

**Table 4: Etiology for DCM**

Cardiomyopathy	Male	Female	Total
<b>Idiopathic</b>	23	14	37(74 %)
<b>Diabetic</b>	4	2	6(12%)
<b>Alcoholic</b>	6	0	6(12%)
<b>Peripartum</b>	0	1	1(2%)

**Table 4** shows the gender segregated etiological factors for DCM among the study patients. Overall, in 74 % of the cases we could not find any cause, labelled as idiopathic dilated cardiomyopathy. The major etiological causes among males in decreasing order of frequency are; idiopathic, alcoholic and diabetic. Among female patients idiopathic DCM was the most common etiology followed by diabetic and peripartum. No female patient in this study was found to have alcoholic DCM.

## DISCUSSION

This study examined the clinico-demographic profile of patients with dilated cardiomyopathy. In present study, dilated cardiomyopathy was predominantly seen in the middle age population. Of the total 50 subjects, males comprised 66% and females 34%. In males, DCM was most commonly seen in the middle age (mean age 51.04 years). In females DCM was predominantly seen in middle age (53.10 years). In one study [3]the mean age was 52.9 ± 15.1 years in males and 51.3.9±17.7 years in females. In another study [4]the mean age was 64.4 years in males and 55.5 years in females. In a study [5]done in 2004, the mean age of presentation was

42.6±9.1years with males comprising 73.6% and females comprising 26.4% of the study population.

Our study showed the main symptoms to be exertional dyspnea, easy fatigability and pedal edema. While the earlier studies by Ahmed et al [3] and Jain et al [5] have shown that breathlessness was present in almost all patients whereas easy fatigability was present in around three quarters of the patients. In their studies PND was present in almost half of the patients which is similar to the finding from our study. A recent study by Ganesh et al [6] also shows that most patients presented with breathlessness (100%), edema (100%) and PND (58%). Other signs like basal crepitations, pedal edema, hepatomegaly and LVS3 were comparable to S. Ahmed et al [3].

Similar to the finding from our study Narmani G et al [6] also could not find specific etiological factor in most number. Diabetic cardiomyopathy is comparable to Narmani G et al study [6]. In present study, alcoholic cardiomyopathy is less frequent because of prohibition at study centre. Peripartum cardiomyopathy etiological difference can be explained on the basis of sample age distribution in present study.

## CONCLUSION

Dilated cardiomyopathy was observed at all age groups but more common in middle aged and elderly population. It is more common in males. The common presenting symptoms include exertional dyspnea, easy fatigability and pedal edema. The most common etiology is idiopathic in both males and females followed by alcoholic and diabetic in males and diabetic and peripartum in females.

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