

A Descriptive Study of Clinical Finding of Dilated Cardiomyopathy at Rural Heart Center

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Abstract: *Background:* A More number of cases presenting with congestive cardiac failure with cardiomegaly with no specific etiology is known. They have been termed dilated cardiomyopathy. *Aim:* To study the clinical profile of DCM patients coming to Rajarajeswari hospital in Bangalore. *Methods:* This was a descriptive hospital-record based study involving a total of 100 patients with dilated cardiomyopathy from August 2018 to January 2020. *Results & Conclusion:* Among the 100 study participants having DCM, 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 cardiac failure; Idiopathic DCM; Past partum DCM

1. Introduction

In some cases of congestive cardiac failure with cardiomegaly no specific etiology is known. The term cardiomyopathy has originated from such difficulty in etiological diagnosis in such cases. Cardiomyopathies are diseases of heart muscles that result from myriad insults such as genetic defects, cardiac myocyte injury, infiltration of myocardial tissue, resulting from cellular as well as extracellular elements. Dilated cardiomyopathy (DCM) is a heart muscle disorder defined by the presence of a dilated and poorly functioning left ventricle in the absence of abnormal leading conditions (Hypertension or valvular heart disease) or ischaemic heart disease sufficient to cause global systolic impairment. The Framingham study has reported 10% annual mortality rate for subjects having congestive cardiac failure¹. The prevalence of dilated cardiomyopathy in western countries is round about 36.5 lacs with annual incidence of 5 to 8 per lac population². Black race and male sex are considered to have 2.5 fold increased risk. Annually dilated cardiomyopathy accounts for 10000 deaths in western countries. With all considerations 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.

2. Materials and Method

The current study was a descriptive cross sectional study. A total of 101 patients of dilated cardiomyopathy admitted to RAJARAJESWARI MEDICAL COLLEGE, Bangalore were enrolled in the study after taking written informed consent. The study participants were recruited from August 2018 to January 2020. 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.

3. Results

The following section shows the results of the analysis of 100 patients with dilated cardiomyopathy.

Table 1: Age and Sex Wise Distribution

Age	Male (% , n=100)	Female (% , n=100)	Total (%)
1-19	4(4%)	4(4%)	8 (8%)
20-39	8 (8%)	8 (8%)	16(16%)
40-59	32(32%)	6(6%)	38(38%)
>60	22(22%)	16(16%)	38(38%)
Total	66(66%)	34(34%)	100(100%)

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=100(%)
Exertional dyspnoea	100(100%)
Easy fatigability	86(86%)
Pedal odema	68(68%)
PND	66(66%)
Orthopnoea	66(66%)
Chest pain	46(46%)
Abdominal pain	36(36%)
Cough	36(36%)
Palpitation	18(18%)
Syncope	18(18%)
Asymptomatic	0(0%)

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=100(%)
Basal crepitations	78(78%)
Pedal odema	72(72%)
Raised JVP	66(66%)
Tender hepatomegaly	42(42%)
LVS3	40(40%)
Pan Systolic Murmur at Apex (MR)	26(26%)
Pan Systolic Murmur at Tricuspid Area (TR)	16(16%)
SBP<100mm of Hg	16(16%)

The presenting symptoms for these patients, we observe that almost all patients 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
Idiopathic	46	28	74(74%)
Diabetic	8	4	12(12%)
Alcoholic	12	0	12(12%)
Peripartum	0	2	2(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.

4. Discussion

This study examined the clinic-demographic profile of patients with dilated cardiomyopathy. Earlier studies done in 1974 by Dutta et al3 and Bhattacharya et al4 have shown the mean age of patients at 34 and 27 years respectively. Whereas, the recent studies by Thomas et al5 and Asha et al6 have shown the mean age to be 49 and 46 years. Our study also showed maximum patients above 40 years of age. A recent study by Ganesh et al7 on profile of DCM patients from Telangana state also reports that most patients were in the age group 40 plus.

As found in our study the study by Asha et al6 also found a higher male: female ration among DCM patients. Similarly Ganesh et al7 and Singh G et al8 also found a higher male: female ratio of 1.6:1 and 1.5: 1 respectively. Yet we cannot comment whether it is more common among males. This ratio only denotes that males outnumber the female patients in hospital admissions. Our study showed the main symptoms to be breathlessness, fatigue and edema. While the earlier studies by Agrawal et al, Bhattacharya et al4 and Babu et al9 have shown that breathlessness was present in almost all patients whereas edema was present in around

three quarters of the patients. In their studies palpitation was present in almost half of the patients which is similar to the finding from our study. A recent study by Ganesh et al7 also shows that most patients presented with breathlessness (100%), edema (68%) and PND (66%). Similar to the finding from our study Ganesh et al7 also could not find specific etiological factor in as high as 50% patients. The earlier studies done in 1996 and 2000 by Thomas et al5 and Asha et al6 observed 36% and 60% cases respectively to be idiopathic. Thus a large number of cases still remain idiopathic. The other etiological factors identified in his study were Alcoholic (12%), diabetic (12%) and peripartum (2%). As expected the alcoholic and diabetic etiology was common among only male patients. Whereas, among female patients, peripartum was the third most common etiology after idiopathic. Interesting is the finding with the diabetic etiology. With increasing incidence of diabetes the proportion of DCM cases with diabetes as etiology can be expected to rise. But it has not been observed so in our study. Only exception is the study by Thomas et al5 which shows diabetic etiology to be contributing for as much as 20% of the total DCM patients.

5. Conclusion

Dilated cardiomyopathy was observed at all age groups but more common among those above 40. It was seen more commonly among males than females. The common presenting symptoms include breathlessness, fatigue and edema. The most common etiology is idiopathic followed by alcoholic in males and postpartum in females.

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