



Study on Risk Factors of Dilated Cardiomyopathy

Rajesh A	Senior assistant professor, Department of Medicine, Tirunelveli medical college Hospital, Tamilnadu, India
Periyasamy R	Senior assistant professor, Department of Medicine, Tirunelveli medical college Hospital, Tamilnadu, India
* Heber Anandan	Senior Clinical Scientist, Dr.Agarwal's Healthcare Limited, Tirunelveli, Tamilnadu, India, * Corresponding Author

ABSTRACT

Background: Dilated cardiomyopathy, by definition, is decreased overall contractility of heart of idiopathic origin. It is irreversible and is slowly progressive.

Aim: To analyse the risk factors of dilated cardiomyopathy and to analyse the severity of dilated cardiomyopathy in relation to its risk factors and to analyse of prevalence of dilated cardiomyopathy in various combinations of risk factors

Methods: 100 patients with history of DCM above 18 years, less than 60 years were included in the study. Medical history with physical examination, laboratory investigations, ECG, ECHO were done

Results: Out of the 100 patients with DCM 66 were males and 34 were females, 41 were alcoholics, 33 were smokers, 51 were diabetics, 21 with dyslipidemia, 58 were hypertensives, 2 with abnormal thyroid function tests and 1 PLHA patient. Out of the 100 patients with DCM, 15 patients were with both smoking and alcoholism, 18 were with both diabetes and smoking and 17 patients were with both systemic hypertension and smoking. 26 patients were with both alcoholism and systemic hypertension.

Conclusion: The severity of the left ventricular dysfunction correlated directly with the history of smoking and alcoholism. Patients who were both smokers and alcoholics had a greater damage of the heart. When three of the risk factors are present nearly 75% of the patients had severe LV dysfunction.

KEYWORDS

dilated cardiomyopathy, diabetes, smoking, alcohol, hypertension, risk factors

INTRODUCTION

Cardiomyopathy is a progressive disease of the myocardium or heart muscle. In most cases the cardiac muscle weakens and is unable to pump blood to the rest of the body¹. There are different types of cardiomyopathy caused by a range of factors from coronary artery heart disease to certain drugs. These can all lead to various complications such as atrial fibrillation, cardiac failure, cardiogenic shock etc². Cardiomyopathy is nowadays one of the common causes for hospital intensive care admissions. Mortality rate is very high if the cardiomyopathy patient is admitted with serious complications such as cardiac failure and cardiogenic shock³. This study is aimed to analyse the risk factors and the etiology of dilated cardiomyopathy and to analyse the severity of dilated cardiomyopathy in relation to its risk factors and to analyse of prevalence of dilated cardiomyopathy in various combinations of risk factors.

AIM

To analyse the risk factors and the etiology of dilated cardiomyopathy and to analyse the severity of dilated cardiomyopathy in relation to its risk factors and to analyse of prevalence of dilated cardiomyopathy in various combinations of risk factors

MATERIALS AND METHODS

Observational retrospective study was conducted in Department of Medicine, Tirunelveli Medical College Hospital. Ethics committee approval and Informed consent were obtained. Patients more than 18 yrs and less than 60 years with Dilated cardiomyopathy were included in the study. Restrictive cardiomyopathy, Hypertrophic cardiomyopathy patients were excluded. Detailed medical history and physical examination with Basic laboratory investigations such as complete blood count, blood sugar, renal function

tests, liver function test, lipid profile and urine analysis, ECG, X-Ray Chest PA view, Echocardiogram, ICTC were done.

RESULTS

100 patients were recruited as per inclusion criteria, 66 males and 34 females. 46 to 55 years patients are high in the study. 58 patients were had hypertension followed by diabetes. Alcoholism and smoking is marked important risk factors. 60 patients are had Ischaemic DCM and 40 had non-ischaemic DCM.

Table 1 Age distribution

AGE	MALES	FEMALES
31-35	4	3
36-40	1	3
41-45	7	2
46-50	19	12
51-55	24	7
56-60	11	7

Figure 1 Co-morbid of the study patients

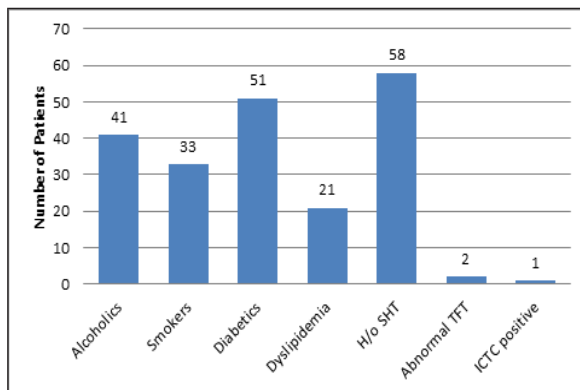


Figure 2 Distribution of Severity of DCM

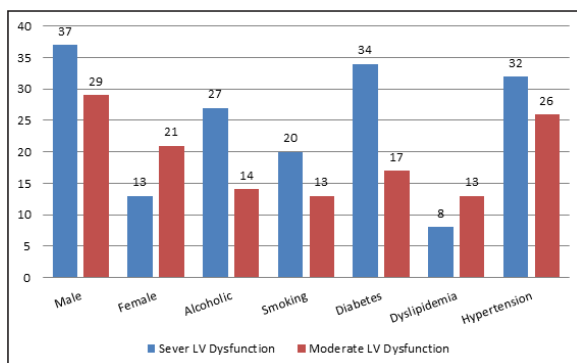


Figure 3 Distribution of Severity of DCM

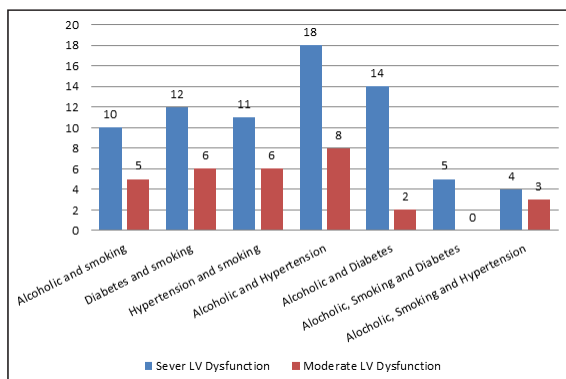
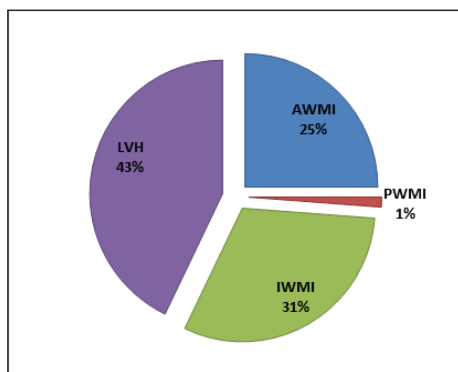


Figure 4 ECG outcome in DCM



DISCUSSION:

Out of the 100 patients with DCM 66 were males and 34

were females, which is similar to Deshmukh A et al study 2011 where the male: female ratio was 1.5:1. In our study patients above 46 years more, which is alarming that other studies shown above 60 years⁴. 41 were alcoholics, 33 were smokers, 51 were diabetics, 21 with dyslipidemia, 58 were hypertensives, 2 with abnormal thyroid function tests and 1 PLHA patient, it is said that only alcohol is not enough to cause DCM in most cases; alcoholic cardiomyopathy is more common in those with genetic predisposition to heart diseases, in contrast to those without. But we did not do genetic testing in alcoholic DCM cases due to financial reasons. Once DCM develops in alcoholics or smokers, the prognosis is uniformly poor⁵. All of the patients who were undertaken for this study either had moderate or severe LV dysfunction. The severity of the left ventricular dysfunction correlated directly with the history of smoking and alcoholism but the study done by Reeves WC et al on 1978 shown that symptomatic alcoholic patients may have systolic dysfunction of various degrees, known as alcoholic cardiomyopathy. However, data on systolic function in asymptomatic alcoholics are conflicting⁶⁻⁹. Patients who were both smokers and alcoholics had a greater damage of the heart. Also alcohol in combination with systemic hypertension and diabetes tend to cause greater failure of the heart when compared to smoking with systemic hypertension or diabetes. On comparing systemic hypertension and diabetes, diabetes mellitus proved to be a major risk factor in causing dilated cardiomyopathy. Patients who had history of alcoholism and who were diabetics showed a greater degree of ventricular dysfunction. In patients with three of the risk factors the severity increased proportionately. When it was diabetes, alcohol and smoking all of the patients had a severe LV dysfunction. This shows that alcoholism and diabetes are the most important risk factors when compared to smoking and systemic hypertension. Dyslipidemia alone does not seem to cause DCM. When dyslipidemia and diabetes are present the risk increases tangentially compared to dyslipidemia with systemic hypertension.

CONCLUSION

Alcoholism, Diabetes, Smoking are the major risk factors in DCM. The severity of DCM is directly proportional to the number of risk factors present. It can also be due to idiopathic causes since it occurs even in patients with none of the risk factors. When three of the risk factors are present nearly 75% of the patients had severe LV dysfunction.

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