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Original article:

Study of congestive cardiac failure cases at tertiary care hospital: Observational study

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Abstract:

Background: India has one of the highest burden of associated with cardiovascular disease (CVD) worldwide. The annual number of deaths from CVD in India is projected to rise from 2.26 million (1990) to 4.77 million (2020) . Coronary heart disease prevalence rates in India have been estimated over past several decades and have ranged from 1.6% to 7.4% in rural populations and from 1% to 13.2% in urban populations.

Methods: This was a retrospective, observational, single centre study was conducted in Department of Cardiology at our Hospital for last one year. We randomly collected data of 100 patients admitted in our department. We collected information including patients history , data from record sheets , clinical examinations , investigations and patient management etc.

Results: Mean age of patients was 61.5 ± 7.71 years. In our study was found 78 % male patients while 22 % female patients. 91 % patients were from rural area. Mortality was reported in 4 % cases. The use of angiotensin-converting enzyme inhibitors or angiotensin-receptor blockers at admission was significantly higher among survivors. There was observed changes in ECG & Echocardiography at the OPD was significant useful for confirmation of diagnosis of nonvalvular origin of heart failure and further plan on urgent basis . 68 % patients admitted as emergency care in evening or during late night with exaggerated symptoms.

Conclusion: From this study, we may conclude, more commonly observed manifestations were shortness of breath, cough, rapid and irregular heartbeats, fatigue and generalized weakness among patients. There was observed significant changes in ECG/Echocardiography at the OPD was significant useful for confirmation of diagnosis and further plan on urgent basis.

Keywords: Heart Failure, mortality; Prevalence; Hospitalization

Introduction:

India has one of the highest burden of associated with cardiovascular disease (CVD) worldwide. The annual number of deaths from CVD in India is projected to rise from 2.26 million (1990) to 4.77 million (2020) (1). Coronary heart disease prevalence rates in India have been estimated over the past several decades and have ranged from 1.6% to 7.4% in rural populations and from 1% to 13.2% in urban populations (2). The high incident rates of obesity, hypertension, and diabetes in this young, urban Indian cohort are likely to be lead to a high burden of CVD in this population in the future. The remarkable changes in prevalence rates of these risk factors over such a short span of time in this rural cohort nowdays could have implications for the use of appropriate risk screening and intervention strategies beginning at younger ages.[3]

Material and Methods:

This was a retrospective, observational, single center study was conducted in Department of Cardiology at our Hospital for last one year. We randomly collected data of 100 patients admitted in our department with nonvalvular origin of heart failure . We collected information including patients history , data from record

sheets , clinical examinations , investigations and patient management etc. The sample size was estimated with the help of expert statistician using online sample size estimation calculator.

Inclusion criteria:

1) Patients age range 18 to 70 years
2) Patients without any other complications
3) Chronic patients without other associated comorbidities like renal , liver diseases etc
4) Patients with regular follow up and management

Exclusion criteria:

5) Patients age below 18 to more than 70 years
6) Patients with any other complications
7) Chronic patients with other associated comorbidities like renal , liver diseases etc
8) Patients without regular follow up and management

Results:

Table 1) Age wise distribution of patients

Age range (In years)	Number of patients	Percentage
18 – 30	4	4
31-40	11	11
41- 50	19	19
51 - 60	57	57
> 60	8	8

Table 2) Gender wise distribution of patients

Gender	Number of patients	Percentage
Male	78	78
Female	22	22

Table 3) Region wise distribution of patients

	Number of patients	Percentage
Rural	88	88
Urban	12	12

Table 4) Patient hospital admission time

	Number of patients	Percentage
During day OPD	35	35
Evening	40	40
Late night	25	25

Table 5) Patient hospital admission time

	Number of patients	Percentage
During day OPD	**35**	**35**
Evening	**40**	**40**
Late night	**25**	**25**

Table 6) Clinical features observed in patients

Clinical features	Number of patients	Percentage
Shortness of breath	**81**	**81**
Oedema of lower extremities	**35**	**35**
Fatigue	**72**	**72**
Irregular heart beats	**46**	**46**
Rapid heart beats	**55**	**55**
Reduced ability to work or exercise	**88**	**88**
Cough	**59**	**59**
Echo LVEDD >60 mm	**73**	**73%**

Table 7) Emergency outcome ECG

Outcome of patients	Number of patients	Percentage
ECG changes observed	**92**	**92**
Difficulty in confirmation	**08**	**08**

Mean age of patients was 61.5 ± 7.71 years. In our study was found 78 % male patients while 22 % female patients. 91 % patients were from rural area. Mortality was reported in 4 % cases. The use of angiotensin-converting enzyme inhibitors or angiotensin-receptor blockers at admission was significantly higher among survivors. On admission ECG,ECHO at the OPD was significant useful for confirmation of diagnosis of non valvular origin of heart faiure symptoms and further plan on urgent basis . Majority of patient had dilated LV confirmed on echocardiography with LVEDD>60mm (73%) .68 % patients admitted as emergency care in evening or during late night with exaggerated symptoms. More commonly observed manifestations were breathless , cough , rapid and irregular heart beats , fatigue and generalized weakness among patients.

Discussion:

Chronic congestive heart failure is a common condition that, if untreated, markedly impairs the quality of life and is associated with a high risk of recurrent hospitalization and death. [3]Heart failure can occur if the heart cannot pump (systolic) or fill (diastolic) adequately. The most common conditions that can lead to heart failure are idiopathic Dilated cardiomyopathy, high blood pressure and previous Myocardial Infarction.[4]

Congestive heart failure (CHF) is a common clinical disorder that results in pulmonary vascular congestion and reduced cardiac output. [5]CHF should be considered in the differential diagnosis of any adult patient who presents with dyspnea and/or respiratory failure. The diagnosis of heart failure is often determined by a careful

history and physical examination and characteristic chest-radiograph findings. Therapy for CHF is directed at restoring normal cardiopulmonary physiology and reducing the hyperadrenergic state. The cornerstone of treatment is a combination of an angiotensin-converting-enzyme inhibitor and slow titration of a beta blocker. Patients with CHF are prone to pulmonary complications, including obstructive sleep apnea, pulmonary edema, and pleural effusions. [6]

In our study , Mean age of patients was 61.5 ± 7.71 years. In our study was found 78 % male patients while 22 % female patients. 91 % patients were from rural area. Mortality was reported in 4 % cases. The use of angiotensin-converting enzyme inhibitors or angiotensin-receptor blockers at admission was significantly higher among survivors. There was observed significant changes ECG at the OPD was significant useful for confirmation of diagnosis and further plan on urgent basis . 68 % patients admitted as emergency care in evening or during late night with exaggerated symptoms.

Despite leading to similar clinical presentations, the underlying cardiac disease and precipitating factors may vary greatly and, therefore, the pathophysiology of AHF is highly heterogeneous. [7,8]

Conclusion:

From this study, we may conclude, more commonly observed manifestations were breathlessness, cough, rapid and irregular heartbeats, fatigue and generalized weakness among patients. There was observed changes in ECG/Echocardiography at the OPD was significant useful for confirmation of diagnosis and further plan on urgent basis .Majority of patient had dilated LV confirmed on echocardiography with LVEDD>60mm. Majority patients admitted as emergency care in evening or during late night with exaggerated symptoms.

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