Original Research Article

Prevalence pattern precipitating factors and presenting features of congestive heart failure patients in GDMCH Dharmapuri

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Abstract

Introduction: Heart failure is the end stage of all diseases of the heart and is a major cause of morbidity and mortality. Since 1970s the treatment of CHF has been transformed, resulting in major benefit to patients. This advance has been the consequence of better understanding of the pathophysiology, investigations, the introduction of newer drugs and cardiac transplantation.

Aim of the study: To find out the prevalence of congestive heart failure among the patients admitted in the hospital and to analyse their presenting features and precipitating factors.

Materials and methods: A total of 196 cases that satisfied the inclusion and exclusion criteria stated above were taken up for subsequent study.

Results: During the study period, 6072 patients were admitted in the medical wards. Out of them 196 satisfied the inclusion criteria. So the prevalence was 3.2 % (196/6072). Among the 196, 7 were expired, thus case fatality rate was 3.5% (7/196).

Conclusion: The prevalence of congestive heart failure among hospitalized was 3.2 %Congestive heart failure was common among the age group of 45 – 65 years. Drug intake mainly Non-steroidal anti-inflammatory drugs, anaemia and infections were the most common precipitating factors.

Key words

Congestive heart failure, Dyspnoea, Systemic Hypertension, Left ventricular dysfunction, Diabetes Mellitus.

Introduction

Heart failure, angina and the pulse were known in the ancient Egyptian and early Greek civilizations. Hippocrates described cardiac cachexia, most vividly reports of the benefits of foxglove exists in Roman literature. (Moore, 1985) Hering used nitrate in 1853 to treat heart failure, the first use of a vasodilator [1]. Bruton later in 1867 described the use of amyl nitrate to treat angina. ACE inhibitors were shown to be of benefit in terms of mortality in patients with heart failure for the first time in 1987. The large trail of digoxin, showing no effect on overall mortality, was reported in 1996. A Pathophysiological state in which an abnormality of cardiac function is responsible for the failure of the heart to pump blood at a rate commensurate with the requirements of the metabolizing tissues [2].Congestive heart failure represents a complex clinical syndrome, characterized by abnormalities of left ventricular function and Neurohormonal regulation, which are accompanied by effort intolerance, fluid retention and reduced longevity. (Packer 1988).Symptoms of heart failure, objective evidence of cardiac dysfunction and response to treatment directed towards the heart failure (Task force of the European society of cardiology 1995) Heart failure is a relatively common disorder [3]. It is estimated that 4.6 million persons in the United States are being treated for heart failure, with 550,000 new cases diagnosed each year. The prevalence of heart failure increases dramatically with age, occurring in 1 to 2 percent of persons aged 50 to 59 and up to 10 percent of individual's older than the age of 75. (Ho, et al. 1993. The overall prevalence of heart failure is 3-20 per 1000 population although this exceeds 100 per 1000 in those aged 65 years and over [4]. The annual incidence of heart failure is 1-5 per 1000 and the relative incidence doubles for each decade of life after the age of 45 years. The overall incidence is likely to increase in the future because of both an aging population and therapeutic advances in the management of acute myocardial infarction leading to improved survival in patients with impaired cardiac function [5].

Materials and methods

The present work was carried out at the Dept. of Medicine Govt. Dharmapuri Medical College, Dharmapuri. The Period of Study was from April 2016 to March 2017. Sample size 196 patients. The present project was approved by the ethical committee. Inclusion criteria: Thus a total of 196 cases that satisfied the inclusion and exclusion criteria stated above were taken up for subsequent study. All cases of proved congestive heart failure admitted in medical wards of Govt. Dharmapuri Medical College Hospital, Dharmapuri. Informed consent was obtained from all those who participated in the study or their relatives.

Exclusion Criteria

- All cases under anti failure treatment.
- Cases admitted in other wards apart from medical wards.
- Patients less than 12 years of age.
- Pregnant women

Results

In the present study median age affected by CHF among male was 55 years, among female was 45 years and in general it was 50 years. In the present study, among 196 CHF patients, 92 patients (47%) were under the age group of 45 to 65. Among these, males were affected more, approximately 60%. The remaining patients were females. Among the 196 patients, 86 patients were taking one or more drugs for the underlying disease. Out of 196 patients 34 patients were had some form of infection. 30 patients had anaemia. Arrhythmia was a precipitating factor in 16 (M-7, F-9) out of 196 patients. Various etiological factors were analysed in the study. In the present study, the most common presenting feature was dyspnoea (99%) and the sign was pulmonary rales (98%). The second most common presenting features was pedal edema (94%). In the present study, out of 196 CHF patients, 82 were due to CAD, 48 were due to RHD and 30 were due to systemic hypertension. Other causes

were cardio myopathy 18 and corpulmonale 18. Out of 30 CHF patients due to Systemic hypertension, 18 were females. Among 82 CHF patients due to CAD, 40 patients, heart failure was precipitated by NSAIDs intake. Among the 30 CHF patients due to systemic HT, 15 patients failure was precipitated by drugs like NSAIDs .In 82 patients with CHF due to CAD only 12 patients, heart failure was precipitated by an acute infection.

Discussion

Heart failure has been the number one cause for death in every year during the past century, while death from CAD and stroke has been decreasing over the past decade; there has been a significant increase in the prevalence of morbidity and mortality from CHF. Data from Framingham study suggest that the estimated prevalence of CHF ranges from 2% to 6%. In smaller mid-western areas the prevalence rate is as high as 6% of population. The prevalence of CHF in the present study was 3.2% [6]. Variety of problems related to Infections, Toxic related and degenerative disorders, contribute to the admission. So the true prevalence gets altered. From population studies, Sulton GC, et al. observed, CHF is less than 1% for patients < 50 years and the prevalence increases to approximately 5% for patients between 50-70 years of age, whereas it was 10% for all patients over the age of 70 years [7]. In the present study prevalence among the age group 45 - 54 comes around 20%, 55-64 comes to 27%, and 65-74 comes 12% Comparing to Western data, in our study, prevalence of CHF is decreased as age advances because of the possible factors . Coming to the etiological factors, Khardra et al, observed CAD as the commonest cause of heart failure. In the SOLVD study CAD accounted for almost, 75% of the cases of heart failure. CAD and HT were implicated as the cause in over 70% of cases of heart failure in the Framingham study. Recent Hillington heart failure study has identified CAD as the primary etiology in 36% of HF. In the present study CAD is the most common aetiology for CHF. It comes to around 42%. Next common aetiology is RHD [8]. Which comes to around 24%, Systemic HT is the third common aetiology. In the present study, CAD and RHD are the most common etiological factors for CHF. Congestive heart failure (CHF) a commonly encountered clinical entity was studied among the patients admitted in the medical wards over 6 months period. It was carried out, a) to find out the prevalence of congestive heart failure among the patients admitted in the hospital, b) to analyse their presenting features & precipitating factors c) to correlate the clinical findings with the underlying aetiology and d) to study outcome of these cases during their hospital stay. Among 6072 admissions 196 patients with congestive heart failure satisfied the inclusion criteria [9]. The prevalence rate was 32.28 / 1000 population, and observed more in males but not statistically significant. The case fatality rate among the congestive heart failure patients was 3.5% (7/196). The most common age group of affected individuals was 45 – 65 years. Etiological factors for the congestive heart failure were in the order of Coronary artery disease. (42%), Rheumatic heart disease (24%), Systemic hypertension (15%) and others (19%) Most common presenting symptom was breathlessness (99%) and the sign was pulmonary crackles (98%). Other presenting features were pedal edema (94%), chest pain (82%), oliguria (77%) and tender hepatomegaly (40%). Most common precipitating factors noted were NSAIDs intake (44%) followed by infection (17%), anaemia (15%), salty diets (15%) and arrhythmias (9%). [10]With better understanding of the pathophysiology of CHF both non pharmacological means and the available newer group of drugs made available to patients through the 3Ps (patients, prescribers, public caregivers) the quality of life of the unfortunate patients could be improved.

Conclusion

Drug intake mainly Non-steroidal anti-inflammatory drugs, anaemia and infections were the most common precipitating factors. Coronary

artery disease and Rheumatic heart disease were the most common etiological factors. Among young individuals, female predominance was noticed and attributable to rheumatic heart disease whereas, the reverse was true in middle age and old age. The later could be due to tobacco related cardiac illness or other etiologist. Waist circumference was in between 80-90 cm in most of the study population The Body mass index of 171 patients out of the 196 patients included in the study was between 20-30. In hospital, case fatality rate was 3.5% [11, 12].

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