



Clinical and Etiological Profile of Patients With Acute Heart Failure

KEYWORDS

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ABSTRACT AIM: To study the clinical and etiological profile of patients with acute heart failure, with prospective evaluation of hospital course, mortality and response to treatment.

MATERIALS AND METHODS: This prospective, observational study, was conducted on 50 consecutive patients attending the Casualty department, Medicine department, and Cardiology department. After a thorough history, clinical examination patients were diagnosed with Acute Heart Failure on the basis of Framingham's Heart Failure criteria. Treatment strategy was done according to the final diagnosis.

RESULTS: Acute HF patients were elderly with mean age 53.9 years and 34 patients (66 percent) were males and 16 patients (34 percent) were females. In our study Ischemic heart disease constituted 46 percent; dilated cardiomyopathy 10 percent; Valvular heart diseases 20 percent; Hypertension 16 percent; Myocarditis 06 percent and Pulmonary Arterial Hypertension (PAH) 2 percent among the etiologies. In our study Cardiogenic shock accounted to 45% of total mortality, denovo AHF 12% and pre-existing heart failure constituted to 10% of total mortality.

CONCLUSIONS : Acute heart failure is a complex syndrome with multiple etiologies, varied presentation, high morbidity and mortality.

INTRODUCTION

Acute heart failure (AHF) is a multifactorial and heterogeneous syndrome with high in-hospital mortality and rehospitalisation rates. The first randomized, placebo-controlled AHF trials in 2002¹ elaborately described about this condition. The mean age of patients with AHF is 70-75 years with nearly equal incidence in both sexes .

AHF is defined as rapid or gradual onset of signs and symptoms of heart failure that results in urgent unplanned hospitalizations/ office/ Emergency department visits².

This functional definition of AHF has three critical elements-

1. Rapid onset of signs and symptoms
2. Signs and symptoms of heart failure
3. Severity with need for urgent intervention.

Classification based on the presence of a history of heart failure/ cardiac dysfunction

- Patients without such a history are considered acute denovo heart failure
- Those with known disease/ history have acute decompensation of chronic heart failure (ADCHF).

The presentation, etiology and treatment is highly variable. Severity of the disease and its complications make it a challenging condition to treat. The clinical and etiological profile of patients with acute heart failure, with prospective evaluation of hospital course, mortality and response to treatment were studied in our set-up.

MATERIALS AND METHODS:

This prospective, observational study, was conducted on 50 consecutive patients attending the Casualty department, Medicine department, and Cardiology department. After a thorough history, clinical examination patients were diagnosed with Acute Heart Failure on the basis of Framingham's Heart Failure criteria. Treatment strat-

egy was done according to the final diagnosis.

RESULTS:

Acute heart failure patients were elderly with mean age 53.9 years. Out of 50 patients 34 patients (66 percent) were males and 16 patients (34 percent) were females. In our study Ischemic heart disease constituted 46 percent; dilated cardiomyopathy 10 percent; Valvular heart diseases 20 percent; Hypertension 16 percent; Myocarditis 06 percent and Pulmonary Arterial Hypertension (PAH) 2 percent among the etiologies. Patients were managed conservatively with diuretics, inotropes, digoxin, Beta-blockers, Angiotensin converting enzyme inhibitors or Angiotensin receptor blockers, Vasodilators, Antiarrhythmics, Anti platelets, Statins, Antidiabetics and Ventilatory support.. In our study Cardiogenic shock accounted to 45% of total mortality, denovo AHF 12% and pre-existing heart failure constituted to 10% of total mortality.

Table 1: Distribution of patients by clinical classification of AHF

| Classification of AHF | Percentage |
|-----------------------|------------|
| Decompensated HF | 60 |
| Pulmonary Edema | 20 |
| Cardiogenic shock | 08 |
| Hypertensive HF | 12 |
| Right HF | 02 |

Table-2 : Risk Factors

| Risk Factor | Number | Percentage |
|-------------------|--------|------------|
| Hypertension | 29 | 58 |
| Diabetes Mellitus | 30 | 60 |
| Smoking | 27 | 54 |
| Alcohol | 19 | 38 |

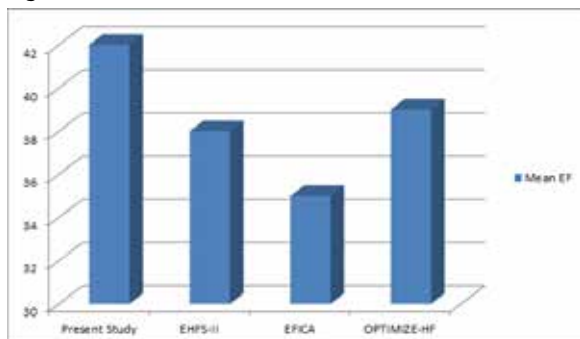
| Risk Factor | Number | Percentage |
|-------------------------|--------|------------|
| Dyslipidemia | 15 | 30 |
| Previous History of CAD | 16 | 32 |
| Family History of CAD | 28 | 56 |

DISCUSSION:

This study specifically targeted patients hospitalized due to acute heart failure either de novo or acute decompensated heart failure. High output heart failure was not recorded as it is a rare and not a well recognized patient group. In this study, the mean age group was 53.9 years. Mean age group in others studies: EHFS-II³: Markku S, Nieminen, Dirk Brutsaert, Kenneth Dickstein et al was 70 years. In a study conducted by Alian Rudiger, Veli-Pekka Harjola, Andreas Muller et al⁴, the mean age was 73 years and men constituted 56 percent. In ADHERE⁵ study group the mean age group was 72.4 (+/-14.0) and 52 percent were women. In OPTIMIZE-HF⁶, the mean patient age was 73.1 years, and 52 percent were females.

In our study the mean left ventricular ejection fraction was 42%.

Fig 1:



Arrhythmias are common in all groups, and mostly supraventricular arrhythmias among which atrial fibrillation was most common. In our study IHD constituted 46 percent; DCMP 10 percent; Valvular 20 percent; Hypertension 16 percent; Myocarditis 06 percent and Pulmonary Arterial Hypertension (PAH) 2 percent among the etiologies.

In EHFS-II³ IHD constituted 53.6 percent; DCMP 19.3 percent; Valvular 34.4% percent; Hypertension 62.5 percent among the etiologies for AHF. In EFICA⁷ study group IHD constituted 60 percent; DCMP 28 percent; Valvular 25 percent and Hypertension 21 percent among the etiologies.

Mortality in our study was 8 percent, in contrast to 6.7 percent in EHFS-II³, and 29 percent in EFICA⁷ study groups. In a study conducted by Luigi Tavazzil, Aldo P. Maggioni; Donata Lucci et al⁸ the in hospital mortality rate was 7.3 percent. The 12-month all cause mortality rate in a study conducted by Krista Siirila-Waris, Johan Lassus, John Melin and et al⁹ was 27.4 percent. In our study Cardiogenic shock accounted to 45% of total mortality, de novo AHF 12% and pre-existing heart failure constituted to 10% of total mortality. In EHFS-II³ Cardiogenic shock constituted 39.6 % and de novo AHF constituted to 8.1% to total mortality. In EFICA⁷ study group Cardiogenic shock accounted for 75% mortality, AMI to 25%, Ventricular arrhythmias constituted 12%.

CONCLUSIONS:

Acute coronary syndrome, valvular dysfunction and ar-

rhythmias were the most common precipitating factors. De-compensated heart failure was the most common clinical presentation in the study. The new onset of heart failure mostly attributed to acute coronary syndromes. Adherence to treatment guidelines and the use of heart failure medication have improved the morbidity and mortality. Mortality for patients presenting with cardiogenic shock was highest. Low systolic blood pressure at hospital admission identifies patients with poorer prognosis.

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