

Characteristics, management, Outcomes in hospitalized patients with chronic heart failure

Thesis submitted for partial fulfillment of master
degree of Cardiology

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2007

Introduction

HF is a complex clinical syndrome that can result from any structural or functional cardiac disorder that impairs the ability of the ventricle to fill with or eject blood.

HF diagnosis is increasing dramatically over the past few decades. It affects approximately 2 to 4 million U.S. residents and more than 15 million people worldwide (1)

Based on the 44-year follow-up of the NHLBI's Framingham Health Study, heart failure diagnosis approaches 10 per 1000 population after the age of 65.

The crude incidence of heart failure (unadjusted for age) ranges from 1 to 5 cases per 1,000 population per year and increases sharply with advancing age to as high as 40 cases per 1,000 population more than 75 years old (2)

Approximately 35% of the population diagnosed with heart failure becomes hospitalized on an annual basis (1)

Indeed, it has been found that the 3-month readmission rate after an index hospitalization for heart failure was as high as 47% of discharges. (3)

Patients hospitalized with decompensated heart failure face a substantial risk of in-hospital mortality and rehospitalization. [7]

In fact, since 1968, heart failure as the primary cause of death has increased fourfold (4).

The most dismal prognosis for patients with severe symptoms (New York Heart Association class IV) and coronary artery disease was an 18% and 43% survival rate at 1 and 3 years, respectively. [5]

However, ACE inhibitor use has been studied in a broad spectrum of patients with heart failure. Its use has transformed heart failure from a terminal illness into a potentially treatable chronic condition with a dramatic absolute mortality reduction of 18% in patients with NYHA class IV. (8)

Also, The benefits of B-blockers in patients with heart failure was evident in a series of randomized, placebo-controlled multi center trials , showing 33 % reduction of all cause mortality.(9). Also, trials indicated that cardiac performance (10), congestive heart failure symptoms, NYHA functional classification (11), and general patient well-being were significantly improved by beta blockers therapy.

On the other hand, spironolactone use had an outstanding 30% reduction in mortality risks, as well as substantial reduction in sudden death, progressive heart failure, collagen turnover, and symptom burden. (12).

Despite the large number of patients hospitalized and this substantial risk, data on these patients have been limited and there has been little effort to improve the quality of care for patients hospitalized with HF. (3)

Also, The characteristics, management, and outcomes of patients hospitalized with HF are poorly defined despite the high prevalence and public health importance of this syndrome.(7)

Aim of work

This registry is designed to bridge this gap in knowledge and care by retrospectively studying characteristics, management and outcome in a broad sample of patients hospitalized with chronic HF during the inpatients setting.

Primary outcome

Defining the characteristics, management, clinical and mortality outcomes in patients hospitalized with HF.

Secondary outcome

Designing HF toolkit that can be used as a hospital based system to improve quality of care and outcome in patients hospitalized with HF.

Patients and methods

A] Patients selection

All patients admitted in one of the referral centers with a discharge diagnosis of chronic HF between January 2006 and January 2008 will be studied .Patients will be eligible for enrolment if they were discharged with the diagnosis of HF.

Inclusion criteria

- Patients diagnosed or newly diagnosed to have asymptomatic LV systolic dysfunction [stage B HF according to AHA / ACC classification] of whatever cause.
- Patients diagnosed or newly diagnosed with current or past manifestation of systolic HF [stage C HF according to the AHA / ACC classification] of whatever cause.

Exclusion criteria

- Patients with normal LV ejection fraction.

B] Methods

1. Detailed medical history

- Age and gender
- Prior history of HF diagnosis.
- Prior hospitalization with HF
- Admitting diagnosis

- History of HF manifestations e.g. shortness of breath , orthopnea , fatigue , ...etc
- New York heart association class of HF
- History of the etiology e.g. Coronary artery disease , hypertension , diabeted mellitus ,etc
- History of co morbidities e.g. chronic obstructive lung disease, chronic kidney disease,....etc
- Medications of HF

2. Complete clinical examination

- Blood pressure measurement
- Lower limb edema
- Complete cardiac examination including auscultation of the back of the chest for rales detections.

3. Twelve lead Electro cardio-gram

- For detection of any etiology for chronic HF or any arrhythmias.

4. Chest X rays

- For detection of pulmonary congestion.

5. Echocardiography

- For detection of LV ejection fraction, segmental wall motion abnormality, any valvular lesion....etc.

6. Laboratory investigation

- Complete blood count
- Full kidney functions test
- Full Liver functions test

- Full lipid profile
- Random blood sugar
- Thyroid functions test [optional]

Statistical analysis

Large, observational, single centered study of characteristics, patterns of care, and outcomes of patients hospitalized with HF.

As an observational database, there is no pre selection of patients or predetermined treatment in the Registry.

It only documents current practice and treatment patterns in hospitals.

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Acknowledgment

First of all, I would like to thank **God** for giving me the power to do this thesis.

Second, I am thankful to my father and mother for making me the person I am.

I would like to thank my mentors **Dr.Wael El Naggar and Dr. Nabil Farag** for making me the physician I am.

Moreover, I would like to thank the management of **Dar Al Fouad** hospital for giving me the access to their patients' records to perform this study. I am also grateful for the hospital's medical records department especially **Mr. Abdel Fatah El Gezeery**, for the remarkable cooperation showed in order to fully accomplish this research work.

Last but not the least, I would like to acknowledge the significant role **Miss Mona Abdel Aziem** did during editing this study.

Dr. Sameh Mahmoud Hozien

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