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RESEARCH ARTICLE

RISK PREDICTORS FOR HEART FAILURE IN AL-MADINA AL-MONAWRA

Ibrahim Fahd Alsehli¹, Ali Abdulelah Alhabobi¹, Muath Sultan Alhazmi¹, Abdullah Mohammed AIBilali¹, Marwan Faleh Almohammadi¹, Abdulelah Mohammed Albalawi¹, Nasser Dakhel Aljohani¹, Abdulrahman Mufi Alsaedi¹, Samar Mohammed Albahloul¹, Mohamed F El-Bab² and Mohamed Mosaad³.

1. MBBS, Taibah University, Madinah, Saudi Arabia.
2. Department of Physiology, Faculty of Medicine, Suez Canal University, Ismailia, Egypt.
3. Associate professor of internal medicine, Department of Internal Medicine, College of Medicine, Taibah University, Madinah, Saudi Arabia.

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Abstract

Introduction: heart failure has emerged over the past several decades as a major global public health problem. In addition to the enormous costs in human suffering and loss of productivity, heart failure has imposed an increasingly heavy financial burden on health-care systems throughout the world.

Subject and methods: We held a cross sectional analytical study in the Cardiac Center in Al-Madina Al-Monawara. A total of 64 patient with heart failure admitted to the center between 1/3/2012 to 10/4/2012 were subjected to questionnaire to determine the risk factors including age, sex, occupation, smoking, physical activity, co-morbid conditions, and family history.

Results: About one third of the total patients admitted to the medical department in Madina Cardiac Centre have heart failure (30.3%). Half of the patients with heart failure are retired and illiterates. DM, hypertension and hyperlipidemia were a common findings in patients with heart failure (45%, 45%, and 40%) respectively. Ischemic heart diseases was the commonest etiology for those with heart failure (85%).

Conclusion: Many factors are associated with heart failure, the most common of which is ischemic heart disease. DM, hypertension and hyperlipidemia are also common findings in patients with heart failure.

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Introduction:-

Heart failure has emerged over the past several decades as a major global public health problem, with rising prevalence reported in both industrialized and developing nations alike (1–6). In addition to the enormous costs inhuman suffering and loss of productivity, heart failure has imposed an increasingly heavy financial burden on health-care systems throughout the world. Although highly effective treatments including new drug therapies and devices have been developed for patients with chronic heart failure (specifically those with systolic dysfunction), episodes of decompensation that require hospitalization still occur commonly in this population (7,8).

Registry data from the USA and elsewhere provide insight into the clinical characteristics of patients who are hospitalized due to ADHF (9–11), these patients are, in general, elderly, with an average age in the low to mid-70s.

Corresponding Author:-Mohamed Mosaad.

Address:-Associate professor of internal medicine, Department of Internal Medicine, College of Medicine, Taibah University, Madinah, Saudi Arabia.

In Asia, however, the average age is considerably lower (12). Approximately half of them are female. Hypertension, coronary artery disease (CAD) and diabetes are common, and one-fourth have atrial fibrillation. Hypertension on admissions more frequent than previously imagined, with systolic pressure averaging between 140 and 150 mmHg. Blood pressure in patients hospitalized with decompensated heart failure in Japan, however, tends to be considerably lower (8). Patients with evidence of hypotension comprise only a small percentage of those hospitalized with ADHF. Approximately half of the patients admitted with decompensation in the USA have heart failure with preserved ejection fraction (HFpEF) and this percentage is even higher in Japan (8,14). Overall 60–90 day post-discharge morbidity and mortality risk, however, does not differ significantly between the HFpEF patients and patients with heart failure and reduced ejection fraction (HFrEF) (13). The echocardiography is the most useful complementary examination when evaluating patients with HF. It provides important information regarding heart morphology; quantifies the systolic and diastolic functions and helps define the etiology and prognostic parameters in response to different therapeutic interventions. In recent years, two new and fundamental echocardiographic evaluations were incorporated into daily practice: the evaluation of ventricular dyssynchrony and hemodynamic evaluation. The latter has been very important to understand the hemodynamic profile of patients with HF, especially decompensated ones or those difficult to manage (15).

Aim of the work:-

To establish a program for prevention and decreasing morbidity and mortality due to heart failure.

Specific objectives:-

1. To determine the major risk factors for developing heart failure in our community.
2. To determine echo findings in these patients

Materials and Methods:-

We held a cross sectional analytical study in the Cardiac Center in Al-Madina Al-Monawara. A total of 64 patient with heart failure admitted to the center between 1/3/2012 to 10/4/2012 were subjected to questionnaire to determine the risk factors including age, sex, occupation, smoking, physical activity, co-morbid conditions, and family history. And we recorded the echocardiographic findings and the final clinical diagnosis for every patient for determining the type, severity, and presence of etiological findings for the heart failure.

Data Analysis:-

The gathered data was processed using Statistical Package of Social Sciences version 17 (SPSS version 17 Inc., Chicago, IL, USA), data was analyzed presented in terms of percentage, means and standard deviations.

Ethical consideration:-

The search aim and method is explained for every patient and a verbal consent is taken, and every one had the right to accept or refuse sharing in our search.

Results:-

About one third of the total patients admitted to the medical department in Madina Cardiac Centre have heart failure (30.3%). Heart failure is more common in males (75%) and in those over the age of 65 (65%) (Table 2). Half of the patients with heart failure are retired and illiterates. DM, hypertension and hyperlipidemia were a common findings in patients with heart failure (45%, 45%, and 40%) respectively (Table 4). Ischemic heart diseases was the commonest etiology for those with heart failure (85%) (Table 3). Though most of the studied cardiovascular risk factors were prevalent in both patients with heart failure and those with the other cardiac diseases, only smoking and gout (Table 4) were significantly more in the patients with heart failure.

Table 1:- presence of chronic illness in the study subjects

The illness	number	%
Diabetes	31	48.4
Hypertension	34	53.1
Hyperlipedemia	29	45.3
Gout	10	15.6
Ch. Liver disease	3	4.7
Ch. Renal disease	6	9.4

Table 2:- age distribution for the patients with heart failure

age	number	%
21-30	2	10
31-40	0	0
41-50	1	5
51-60	4	20
60	13	65

Table 3:-The associated cardiac diseases in the patients with heart failure

Cardiac diseases	number	%
Acquired disease	19	95
Congenital disease	1	5
Ischemic heart diseases	17	85
Valvular heart diseases	5	25

Table 4:-risk factors for cardiac diseases in patients with and without heart failure

The risk	Heart failur		No H. F.		total	
	No.	%	No.	%	No.	%
DM	9	45	22	50	31	48.4
Hypertension	9	45	25	56.8	34	53.1
Hyperlipedemia	8	40	21	47.7	29	45.3
Gout	4	20	6	13.6	10	15.6
Ch.liver disease	2	10	1	2.3	3	4.7
Ch.renal disease	4	20	2	4.5	6	9.1
+ve family h.	1	5	6	13.6	7	10.6
Sedentary life	14	70	37	84.1	51	77.3
Smoking	4	20	7	15.9	11	17.1
total	20	100	44	100	64	100

Discussion:-

In our study many factors are associated with heart failure, the most common of which is ischemic heart disease which is also the most common cause of HF in western countries (18) . Male sex , illiterates , DM, hypertension and hyperlipidemia are also common Factors and these findings were reported in many studies that investigated patients with HF. One of these studies is the First National Health and Nutrition Examination Survey done in the United States that followed 13643 patients who didn't have a history of HF over 20 years period and the incidence of HF was associated significantly with : male sex , less than a high school education, low physical activity, cigarette smoking, overweight, hypertension, diabetes, valvular heart disease and coronary heart disease(19). Also Framingham Heart Study found that patients with blood pressure $\geq 100/160$ mm Hg have 2 times more risk for developing HF when compared to patients with blood pressure $< 90/140$ mmHg. They also reported that Older people are at increased risk for developing HF (20) .

Conclusion:-

Many factors are associated with heart failure, the most common of which is ischemic heart disease. DM, hypertension and hyperlipidemia are also common findings in patients with heart failure.

Study limitations:-

The main limitation in our study is the cross-sectional study design, with its limitations, including recall bias. Also the low number of the patient included in the study .

Conflict of interest:-

The authors declare that they do not have any conflicts of interest to declare.

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