

Original Research Article

Risk Factor and Consequences of Women with Coronary Heart Disease in Babylon Province 2016

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Abstract

Coronary heart disease is considered as one of the most frequent illnesses and the most important cardiovascular disease in develop countries and developing countries and common form of heart disease in Iraq it is one of causes of death in women it is also Known as Ischemic heart disease.

Coronary heart disease refer to disease due to decrease blood supply and in sufficient delivery of oxygen to the heart muscle.

There are multiple type of coronary heart disease starting from stable angina (demand angina , supply angina) and acute Coronary syndrome (myocardial infarction, Non STEMI)

عوامل الخطورة والنتائج المترتبة على النساء المصابات بأمراض القلب التاجية في محافظة بابل 2016

الخلاصة

تعتبر امراض القلب التاجية هي واحدة من اكثر الامراض ومن اهم امراض القلب الوعائية في الدول المتطورة والنامية ومن اكثر امراض القلب شيوعا في العراق في عمر 60-69 سنة وواحدة من اسباب الموت في النساء وتعرف بمرض القلب الاقفراري. تشير امراض القلب التاجية الى الامراض التي تحدث نتيجة نقص الدم المجهز وعدم كفاية تسلم الاوكسجين الى عضلة القلب. توجد عدة انواع من امراض القلب التاجية تبدأ من الذبحة الصدرية المستقرة و متلازمة التاجية الحادة (احتشاء العضلة القلبية والذبحة غير المستقرة).

ان الهدف من البحث هو دراسة امراض القلب الاقفرارية في النساء حصرا بعد تقسيمهم الى مجموعتين قبل سن اليأس وبعد سن اليأس ودراسة مضاعفات المرض لمرض اقفرار القلب في هذه المجموع.

الكلمات المفتاحية: القلب, التاجية, الذبحة, الدم.

Introduction

Cardiovascular disease is the leading cause of death in women, regardless of race or ethnicity, accounting for deaths of 1/3 of women[1].

In 2013 CAD was the most common cause of death globally, resulting in 8.14 million of deaths (16.8%) up from 5.74 million deaths (12%) in 1990[2]. The majority of the burden is tilted towards middle and low income countries[3]. Worldwide, The IHD was the second and third prominent cause of disability-adjusted life years lost in men and women in 2002, respectively [4].

CHD is caused by a number of risk factors. Some of these non-modifiable changed (age, family history, gender) while the majority of risk factors can be modified by changing the life style. Among the factors mentioned in the first place are: smoking, obesity[5].

Women with acute coronary syndrome are more likely than men to have adverse outcomes, including death, stroke, heart attack, or re-hospitalization [6].

Almost two-thirds (64%) of women who die suddenly from coronary heart disease have no previous symptoms, Even if you

have no symptoms, you may still be at risk of heart disease[7]. In premenopausal women, the lipoprotein concentrations vary throughout the menstrual cycle, with substantial heterogeneity among individuals and studies [8]. Parous women tend to have lower HDL cholesterol levels than the nulliparous women [9], while the total cholesterol levels increase at menopause [10]. There are two types of complication of coronary heart disease: major mechanical and non-mechanical complications are only seen with significant, often transmural, MI, non-mechanical complications include (embolism, arrhythmia, heart failure and pericarditis) [11].

The aim of this study was to estimate the approximate frequency of CHD among female that admitted for CCU in the hospital. To evaluate complication and mortality of female with CHD on short term in hospital period. and To study the most frequent type of CHD that affect female on different age group

Materials and Methods

A cross-sectional study was carried out at coronary care unit at Al-Hilla teaching hospital, Merjan Teaching city and Shaheed Al-Mehrab Catheterization center at Babylon province. A sample size of 105 CHD patients was included from 1st of March to 30 of July 2016. Data were collected through structural questionnaires for assess risk factor and consequences in women with CHD. The overall mean age of patient with CHD were (63.86%) years old. ECG changes were detected by doing electrocardiograph by expert nursing staff Healthcare co.(USA) patients' readings were: 40.3% ST-elevation, 11.4% ST-depression, 31.4% T-inversion, 12.38% normal ECG and 9.5% were left bundle branch block.

Inclusion criteria

- 1-Female patient diagnosed with CHD with age from 30 to 99 years.
- 2-Female patient who agreed to participate in the study by verbal consent.

3.4:Exclusion criteria

Female patient who refused to participate in the study

Data collection tools

A specially design sheet was used risk factor of CHD and consequences at Merjan medical city, Catheterization center and Al-Hilla teaching hospital which consist of:

- 1-Questionnaire.
 - 2-Measurement of BMI.
 - 3-Investigation ECG, ECHO and S-troponin)
- Data collection took place in two steps; first step interview with patient and fill out the questionnaires and second steps was to perform measurement and the last one to take ECHO and ECG.

Data analysis

Recording information was checked for the missing values and data entry errors. Statistical analysis was performed using statistical package for social science software (SPSS, version 20) and Microsoft Excel 2010 was used for data processing and for the patient according to their characteristics and percentage for the patient mean. The P-value of less than 0.05 was significant statistically.

Ethical approval

The approval of ethics committee in the hospitals was been obtained. All patients were informed about the nature of the study and that their participation in this study was voluntary and they have the right to withdraw at any time without any penalization and their refusal to participate. After obtaining the consent, the patient was asked question from personal by face to face.

Results

In the result of this study, the mean age of CHD patients were (63.86) years old and (82.9%) are equal or older than 51 years while (17.1%) less than 51 year so, CHD occur with higher percentage at post-menopausal age.

The present study revealed that several factors which are risky and cause disease (married, non-employ, low educational status, non-smoker, low economic status, hypertension, high parity and obesity were

significant associated with coronary heart disease.

Figure 1 Distribution of patients by CHD type

This figure shows that 51.42 % of patients have MI While 22.85% of patient have unstable angina

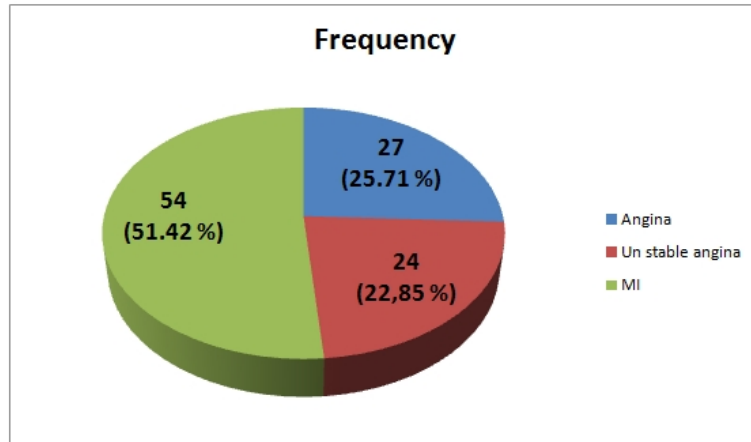


Table 1 : Distribution of CHD type by age groups of patient

show the distribution of CHD patient by age group. the age of patients with CHD ranges from 30 to 99 year which show that CHD occur with high frequency at age (60-69) year with percentage (30.47%) , while the least frequency occur at the age (30-39) year with percentage (0.09%).

Age(year)	Angina	Unstable angina	MI	Total	%
30-39	0	0	1	1	0.09%
40-49	4	6	4	14	13.3%
50-59	5	4	13	22	20.9%
60-69	12	9	11	32	30.47%
70-79	4	3	13	20	19.04%
80-89	2	0	9	11	10.47%
90-99	0	2	3	5	4.76%

Table 2: Distribution of CHD type with ECG changes

show the distribution of CHD type with ECG changes which show that ST-elevation is the most frequent change in patients with MI while it is least frequent in patients with unstable angina .

types of CHD	St- depression	St-.elevation	T .inversion	normal	LBBB	Total
Angina	4	1	21	1	0	27
Unstable angina	3	0	10	11	0	24
MI	5	41	2	1	5	54
Total	12	42	33	13	5	105
Percent	11.4%	40.03%	31.4%	12.38%	4.76%	100.0

Table 3: Distribution of duration of admission With CHD type

This table shows that 16 patients with CHD (15.2 %) have duration of admission of more than 6 days, 12 patients of them have MI, while only 9 patients (8.6 %) were admitted for < 3 days.

duration of admission		types of CHD			Total
		Angina	Unstable angina	MI	
<3days	No .of patient	3	1	5	9
	% of duration of admission	33.3%	11.1%	55.6%	100.0%
	% of types of CHD	11.1%	4.2%	9.3%	8.6%
3-6days	No .of patient	22	21	37	80
	% of duration of admission	27.5%	26.3%	46.3%	100.0%
	% within types of CHD	81.5%	87.5%	68.5%	76.2%
>6 days	No. of patient	2	2	12	16
	% of duration of admission	12.5%	12.5%	75.0%	100.0%
	% within types of CHD	7.4%	8.3%	22.2%	15.2%
Total	No .of patient	27	24	54	105
	% of duration of admission	25.7%	22.9%	51.4%	100.0%
	% wit types of CHD	100.0%	100.0%	100.0%	100.0%

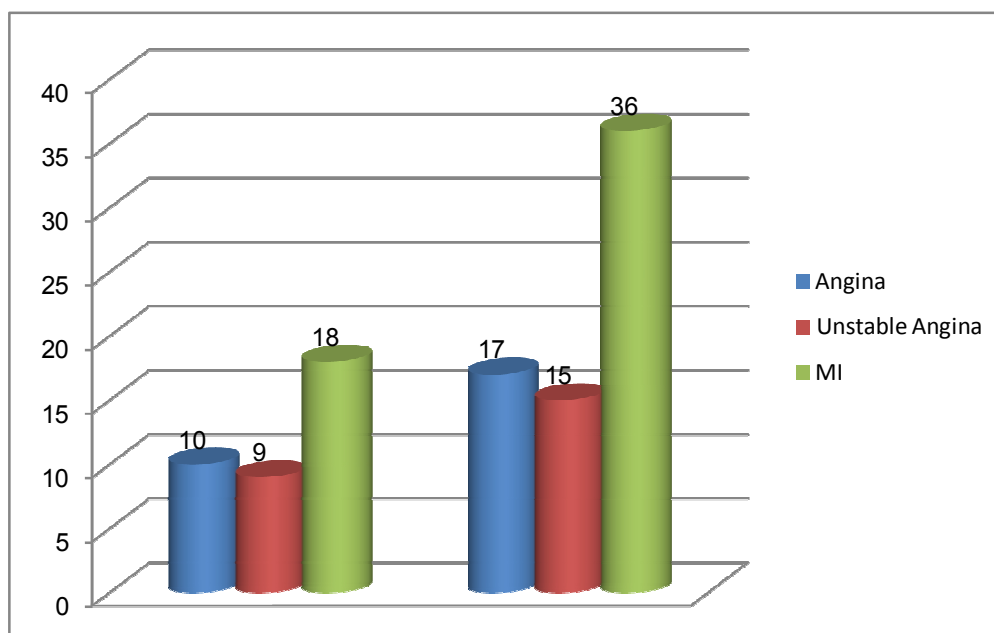
Table 4: Distribution of the types of CHD in pre- and post-menopausal women

This table shows that CHD occurred most frequently in post-menopausal women with percentage of 82.9 %. While the least frequently occur in pre-menopausal age with percentage of 17.1%

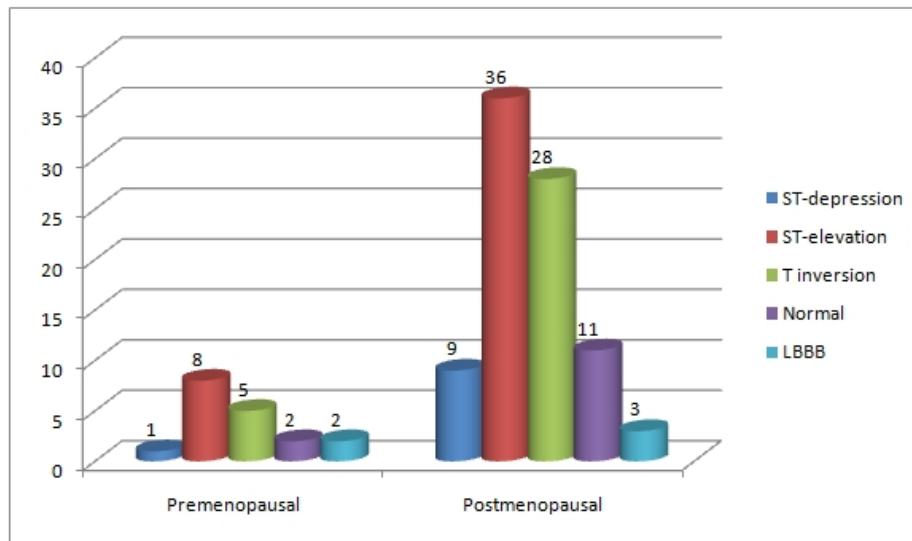
		Types of CHD			Total
		Angina	Unstable angina	MI	
Pre-menopausal age	No. of patient	2	7	9	18
	%with age	11.1%	38.9%	50.0%	100.0%
	%with type of CHD	7.4%	29.2%	16.7%	17.1%
Post-menopausal age	No.of patient	25	17	45	87
	%with age	28.7%	19.5%	51.7%	100.0%
	with type of CHD	92.6%	70.8%	83.3%	82.9%
Total	No. of patient	27	24	54	105
	% with age	25.7%	22.9%	51.4%	100.0%
	% with type of CHD	100.0%	100.0%	100.0%	100.0%

Distribution of CHD patients by number of children

This Figure shows the Distribution of CHD by number of children which show CHD occur more frequently when number of children more than 5 especially myocardial infarction

**Figure 3:** Distribution of ECG findings by menstrual status

This figure shows that most ECG changes in CHD patient are ST-elevation in postmenopausal women.



Distribution of complication of CHD

This figure show the complication of CHD in which 4.7% of CHD patient developed Heart failure while only 1.9 % of them developed Embolism

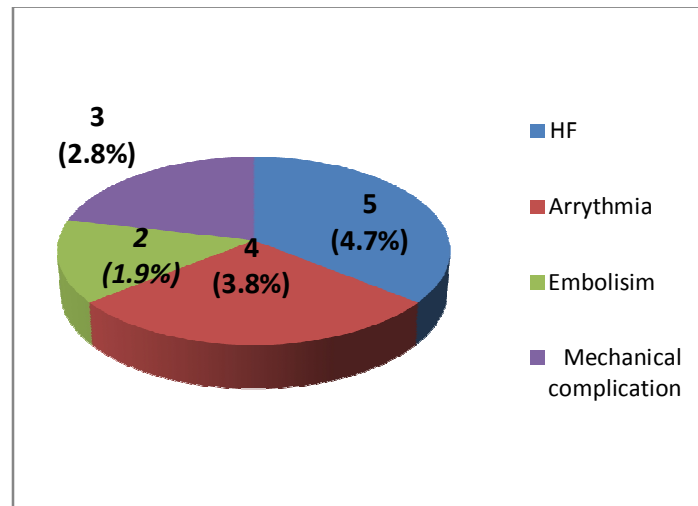


Figure 4 : Distribution of complication of CHD

Discussion

Cardiovascular diseases in women in modern world are considered to be in first place by incidence and mortality in relation to other diseases [12]. This study revealed there was higher percentage of patients with ACS (MI, UA) than patients with stable angina. This result agrees with MULCAHY R et al [13]. In our Research the peak age of CHD patients is between

60-69 years which may be due to the accumulation of the risk factors in this age group this finding agreed with Canto [14]. In this research, premenopausal women age group are less liable to be at risk of CHD as they are in the cardio-protective period of endogenous estrogen. This finding is in agreement with Lansky AJ *et al* [15]. The incidence of CHD increases after the age of 51 years as a result of starting the

menopausal period where the production of estrogen decreases[16]. In this study we found ST-elevation is the most frequent change in MI while it is less frequent with unstable angina. This study show there was significant association between coronary heart disease and socio demographic characteristic (occupational status, educational status, marital status, economic status) in which p value < 0.001. there was significant correlation between economic status and CHD in which people with lower income had greater incidences of CHD events this agrees with Clarke et al[17]. Study show patient living in rural area were more risky for CHD and it agreed with Rhodes et al [18].

the incidence of CHD especially MI increase among women with high parity this study agrees with Palmer et al [19] and also there was significant correlation between coronary heart disease and obesity. This

study agreed with Wilson et al[20] and the long duration of disease at hospital was significant factor which agrees with Kirkwood et al [21]. There was strong correlation between history of hypertension and CHD this result agreed with Kastorini et al [22] study, there was association between CHD and family history of premature IHD which agrees with Scheuner [23] In this research we found about 13.3% of CHD patient were having complication (4.7% of them have HF, 3.8% arrhythmia, 2.8% Mechanical complication and only 1.9% have embolism).

Conclusion

CAD in women continues to be a major public health problem that represents a leading cause of death and disability. female patient with low socioeconomic status, not employ or rural area or low educational status are more liable to get CHD more than other.

The study suggests that risk of cardiovascular disease increase when an apparently inherited predisposition appears to be in a family. And the risk of CHD increase at post-menopausal age.

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