Ischemic Heart Disease Mortality, Morbidity and Risk Factors of Coronary Care Unit Patients

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Abstract

Background: Ischemic heart disease (IHD) is the commonest type of heart disease .It causes more deaths and disability and incurs greater economic costs than any other illness. Gender, age, hypertension, diabetes mellitus, smoking, hyperlipidemia and family history are obvious risk factors. In acute state it may be complicated by life threatening arrhythmia, heart failure, circulatory failure and cerebrovascular accidents.

Aims of study: To evaluate the patients with ischemic heart disease admitted to the coronary care unit of Baquba teaching hospital

Patients and Methods: A total of 160 cases of patients with various symptoms of ischemic heart disease including chest pain, dyspnea, and palpitation are evaluated in the coronary care unit of Baquba teaching hospital by history taking, physical examination, and Electrocardiogram, echocardiogram, and lab tests with continuous follow up until discharge from the coronary care unit.

Results: From total number 97(60.62%) patients were males,58 have myocardial infarction and 39 have angina .The rest of the patients were females 63 (39.38%),41 of them have angina and 22 have myocardial infarction. Male was the highest risk factor followed by hypertension, diabetes mellitus, smoking family history and hyperlipidemia .Arrhythmia is the commonest complication while heart failure, cerebrovascular accident and circulatory failure of lesser frequency .

Key words: Ischemic heart disease, Mortality, Morbidity, risk factors.
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Introduction

Ischemic heart disease (IHD) also known as coronary heart disease (CHD) is the most common type of heart disease and cause of heart attack [1]. Ischemic heart disease causes more deaths and disability and incurs greater economic costs than any other illness in the developed world .It is the most common, serious, chronic, life threatening illness in the united states where 13 million persons have IHD, more than 6 million have angina pectoris and more than 7 million have myocardial infarction [2] .

IHD was as 2012 the most common cause of death in the world [3] , and a major cause of hospital admissions [4] .Coronary heart disease as of 2010 was the cause of death globally resulting in over 7 million deaths. This is up from 5.2 million deaths in 1990 [5]. It may affect individuals at any age but becomes dramatically more common at progressively older ages, with approximately a tripling with each decade of life .Males affected more than females [6]. Coronary heart disease is the leading cause of death for both men and women and accounts for

approximately 600,000 deaths in the united states every year[7] .According to present trends in the united states half of healthy 40 year old males will develop CAD in the future and one in three healthy 40 year old women.[8]

It is the most common reason for death of men and women over 20 years of age in the United States. [9] CHD has a number of well determined risk factors .The most common risk factors include smoking ,family history, hypertension, obesity, diabetes, high alcohol consumption, lack of exercise, stress and hyperlipidemia [10,11]. The relation between smoking and myocardial ischemia incidence in both sexes markedly higher incidence rate were seen among current smoker ,intermediate rates were observed among ex-smoker, yet were significantly higher compared with never smokers .[4]

Aims of study:

The aims of study is to evaluate the patients with ischemic heart disease admitted to the coronary care unit of Baquba teaching hospital regarding the incidence, risk factors and the complications including the morbidity and the incidence of mortality rate among the patients according to their age, gender and according to the type of ischemic heart disease.

The evaluation also included the categorization of ischemia weather angina or infarction and their incidence according to the age and gender.

Patients and Methods

During the period from first January to first April 2014 160 patients admitted to coronary care unit of Baquba teaching hospital for variable symptoms and manifestations of ischemic heart disease including, chest pain, dyspnea, palpitation and dizziness. On admission full history taking including past medical history of ischemic heart disease. Physical examination done for checking of vital signs ,peripheral pulses cardiac and chest as well as height and weight for BMI estimation. In the coronary care unit the patients closely observed for vital signs, oxygen saturation, continuous electrocardiogram, twice 12 leads electrocardiogram on morning and evening and bedside echocardiogram were done. Blood sample for complete blood count biochemical tests are send to the lab .During the follow up of the patients they monitored for developing of complications including arrhythmia, pulmonary edema, circulatory failure & cerebrovascular accident & offered the management accordingly. The follow up of the patients continued until they discharged from the coronary care unit.

Results

From total number, 97(60.62 %) patients were males, 58 have myocardial infarction and 39 have angina .The rest of the patients were females 63(39.38%), 41 out of them have angina and 22 have myocardial infarction. (Table- 1)

Male sex 97(60.6%) represent the highest risk factor while chronic diseases like hypertension and diabetes mellitus are coming next .Smoking ,age ,hyperlipidemia ,family history of ischemic heart disease ,obesity and others(drinking ,stress and contraceptive pills) are also recorded risk factors (Table -2).The percent of arrhythmia 20% (no 32) was higher than other complications recorded like heart failure 16.8%(no 27) ,cerebrovascular accident 5% (no 8) and circulatory failure 2.5% (no 4). (Table 3)

From total number, 79 patients with ischemic heart disease are seen after the age of 60 years, 60 patients between age 50-60 years, 15 patients between the age 40-49 years 5 patients between the age 30-39 and only one patient between 20-29 years. (Figure 1)

The total number of mortality were 13 (8%).Females were little bit higher 7 patients

4.37% and the males were 6 patients 3.63%. (Table- 4)

The mortality number was higher among patients with myocardial infarction (10 patients) and less among patients with angina (3 patients). (Figure- 2)

Table (1): Distribution of the type of ischemic heart disease according to the sex**.**

Sex	Angina	Myocardial infarction	Total	Percent
Male	39	58	97	60-62%
Female	41	22	63	39-38%

Table (2): Incidence of risk factors**.**

Risk factors	Number	Percent
Male sex	97	60.62%
Hypertension	94	58.7%
Diabetes mellitus	71	44%
Smoking	53	33%
Age	42	26%
Hyperlipidemia	23	14%
Family history	18	11%
Obesity	9	5-6%
Others Drinking, stress, contraceptive pills	2	1.2%

Table (3): Incidence of complications of ischemic heart disease.

Complications	Number	Percent
Arrhythmias	32	20%
Heart failure	27	16.8%
Cerebrovascular accident	8	5%
Circulatory failure	4	2.5%

Table (4): Distribution of mortality according to the gender.

Sex	No	Percent
Female	7	4.37%
Male	6	3.63%
Total	13	8%

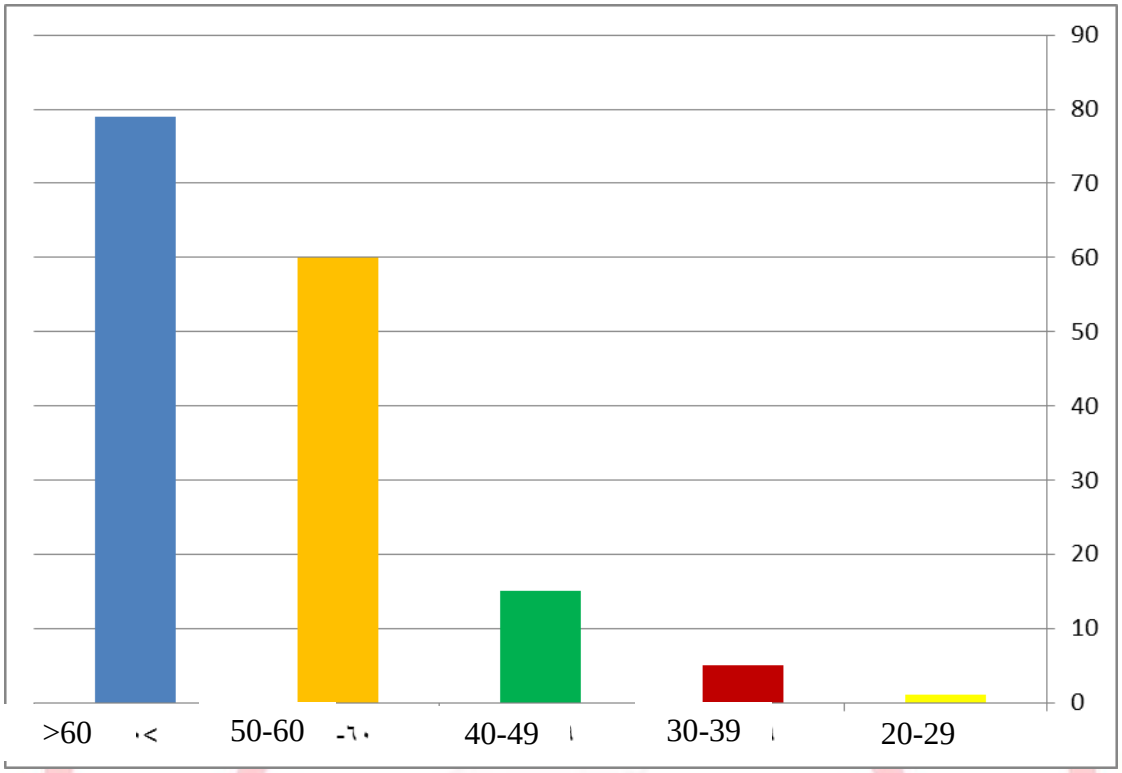

Figure (1): Distribution of ischemic heart disease according to the age.

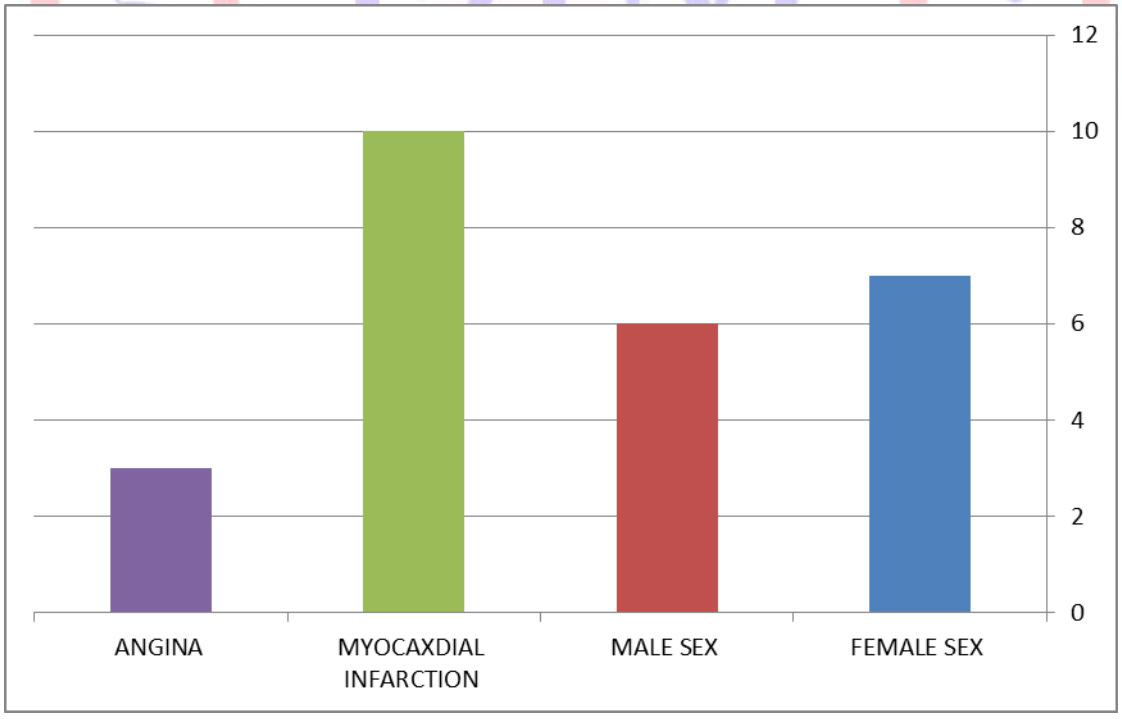

Figure (2): Distribution of mortality according to type of ischemic heart disease and gender.

Discussion

Ischemic heart disease is the single largest cause of death worldwide .There is more than 20 fold variations in ischemic heart disease mortality rates between communities .Highest rate in Eastern Europe and central Asian countries; lowest rate in high income countries .The development of coronary care units in late 1960s improve remarkably the rate of mortality and morbidity of ischemic heart disease because of a big role in management of this disease and consider to be important tool as they are specialized units for timely recognition and immediate treatment of life threatening arrhythmias. Although male sex is the first risk factor in our study ,modifiable risk factors like diabetes mellitus, hypertension smoking and hyperlipidemia were shown in a high percent and can be greatly controlled to reduce the mortality and morbidity .In a study done by Chuas TS and *et al* for the complications of ischemic heart disease arrhythmia was 17%, cardiogenic shock 18% and congestive heart failure 4% which differ from our study in that arrhythmia and heart failure were in a higher percent 20%, 16.8%respectively.

In our study the mortality rate was 8% which consider to be low in comparison with mortality rate of coronary care unit of Singapore in study done in 1988 which was 17% and this can be explained by the used of thrombolytic therapy for the treatment of acute myocardial infarction which is shown to improve survival outcomes.

In a study done by Peter Ting, Terrance ST Chua and et al in coronary care unit of National Heart center in 2002 the mortality rate was 5.2% which is lower than the mortality rate in our study because of introduction of acute percutaneous trans luminal angioplasty.

Conclusion

Coronary artery disease is the commonest of cause of cardiovascular diseases and it is the leading cause of death among both sexes. Myocardial infarction causes 35% of death in men between 35-50 years .The death rate is higher for men than women between ages 35-55 years. Following a healthy lifestyle can help you to prevent or control many CHD risk factors like maintain a healthy weight, follow a healthy diet, do physical activity regularly and control

- High blood cholesterol and triglyceride levels **(**a type of fat found in the blood)
- High blood pressure
- Diabetes and prediabetes
- Smoking
- Stress

Many people have at least one CHD risk factor. Your risk of CHD and heart attack increases with the number of risk factors you have and their severity. Also, some risk factors put you at greater risk of CHD and heart attack than others. Examples of these risk factors include smoking and diabetes.

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