International Journal of Medical and Health Research
ISSN: 2454-9142, Impact Factor: RJIF 5.54
www.medicalsciencejournal.com
Volume 3; Issue 3; March 2017; Page No. 42-44

The most prevalent symptoms of coronary artery disease and its association with crucial hospitalization time in tertiary care hospital

[1] Dr. Husan Pal, [2] Dr. Kiranjit

[1] Junior Resident, Department of Medicine, GMC Patiala, Punjab, India
[2] Associate Professor, Department of Pulmonary Medicine, GGS Medical College, Faridkot, Punjab, India

Abstract
Introduction: Ischemic heart disease is a common problem faced by people worldwide. Its incidence generally increases with advancing age. The most common cause of myocardial ischemia is atherosclerotic disease of an epicardial coronary artery (or arteries) sufficient to cause a regional reduction in myocardial blood flow and inadequate perfusion of the myocardium supplied by the involved coronary artery. This study highlights the most prevalent symptoms of coronary artery disease and to establish its association with the crucial hospitalization time in a tertiary care hospital.
Materials and Methods: An observational crossectional study was conducted in a tertiary care hospital in Patiala, Punjab. During this 3 year study, a total of 200 patients enrolled. After establishing the diagnosis, complete history of patients were obtained and recorded in a pretested proforma. The results were analysed using SPSS software and chi square test was applied.
Conclusion: According to the above study it can be concluded that chest pain and sweating are the most common presenting symptoms and most of the people get admitted within 24 hours of presentation of first symptom.

Keywords: atherosclerotic, crossectional, epicardial, myocardial

Introduction

In ischemic heart disease due to imbalance between myocardial oxygen supply and demand, there is inadequate blood and oxygen supply to a portion of myocardium. The most common cause of myocardial ischemia is atherosclerotic disease of an epicardial coronary artery (or arteries) sufficient to cause a regional reduction in myocardial blood flow and inadequate perfusion of the myocardium supplied by the involved coronary artery. The major determinants of myocardial oxygen demand (MVO_2) are heart rate, myocardial contractility, and myocardial wall tension (stress).

Diagnosis of IHD is made with an electrocardiogram, cardiac markers, cardiac stress testing or a coronary angiogram or other non-invasive investigations. In 2005, CAD was the single most frequent cause of death in American men and women, causing 607,000 deaths (about 1 in every 5 deaths) [1]. Coronary artery disease (including acute MI) is responsible for about half of the cardiovascular deaths [2]. Young Indians with CAD have extensive coronary atherosclerosis, with even premenopausal women having multivessel disease, a pattern rarely seen in the West. Although mortality from ischemic heart disease (IHD) in Western countries has declined in the recent years. The major contributor to the increased survival in western countries appears to be improved care of established cardiovascular disease rather than a decrease in the occurrence of new cases of cardiovascular disease in women, emphasizing the need for preventive interventions. However the situation is not the same in developing and poor countries like India where advanced care is not freely available and affordable by the poor. This study highlights the most prevalent symptoms of coronary artery disease and to establish its association with the crucial hospitalization time in a tertiary care hospital.

Materials and methods

An observational, crossectional study was conducted in the outpatient department of Department of Medicine, Rajendra Hospital, Patiala. The study was conducted over a period of three years and included 200 patients. Out of which 100 were males and 100 were females. The data obtained from the patients of CAD was recorded in a preset proforma, after informed consent was obtained from them in their vernacular language. The diagnosis of coronary artery disease was made on the basis of stress echocardiogram/ electrocardiogram, history of angina with evidence of myocardial ischemia, angiogram documenting > 50% stenosis.

Patients were verified for fulfilling inclusion criteria and ruled out for presence of exclusion criteria. All the patients and their relatives were informed about the study in their vernacular language. Written consent was taken. A detailed history of each patient was taken as per proforma attached. Complete clinical examination was done and all the routine investigations as in proforma has undertaken. CAD was diagnosed by ECG, history of angina, echocardiography, biomarkers or as per previous records available.

The data thus obtained was arranged in a tabulated form and analyzed using SPSS software. Chi square test was applied to check for significance. A p value of less than 0.05 was regarded as significant.

Results

A total of 200 candidates enrolled in this crossectional study. The results of the study are as follows.

Table 1 dictates the distribution of cases in terms of place. Approximately 56% of male and 58 % of females belonged to urban population and rest were from rural areas of Punjab.

Majority of cases were seen from urban population as compared to rural population. The difference was not significant between them.

Table 2 demonstrates the presenting symptoms of the disease. 52% of male population and 84 % of the female population came with chest pain, making it the most prevalent presenting symptom. The difference between male and female was highly significant with the p value of <0.001. Only 2% of the male and 5% of the female population presented with pain in abdomen as the presenting symptom, making it the least common symptom. The difference was not significant between them. The second most common presenting symptom was sweating (58% in males and 51 % in females).

Table 3 demonstrates time interval between onset of symptoms and hospitalization. Maximum number of patients 35 males and 42 females were admitted after 24 hours of symptoms and minimum patients 24 males and 18 females were admitted within 6 hours. The difference was not significant with the p value of 0.534.

Table 1: distribution of cases in terms of place

S. No.	Place	Male	Female
1	Urban	56	58
2	Rural	44	42
	Total	100	100
Chi Square		0.082	
P value		0.775	
Significance		NS	

Table 2: Showing the symptoms at the time of presentation

Symptoms	Male	Female	Chi Square	P value	Significance
Chest pain	52	84	23.529	<0.001	HS
Sweating	58	51	0.988	0.320	NS
Breathlessness	40	38	0.084	0.772	NS
Palpitation	16	30	5.539	0.019	S
Nausia/vomiting	14	24	3.249	0.071	NS
Giddiness	12	18	1.412	0.235	NS
Pain abdomen	2	5	1.332	0.248	NS

Table 3: Showing time interval between onset of symptoms and hospitalization

Duration in hours	Male	Female
<6	24	18
7-12	32	28
13-24	9	12
>24	35	42
Chi Square	2.189	
P value	0.534	
Significance	NS	

Discussion

Cardiovascular disease is becoming pandemic worldwide as developing countries experience an epidemiologic transition portrayed by Omran from pestilence and famine to receding pandemics and degenerative diseases [3]. According to a study by Wild SH. *et al* (1995), he showed that in the US, Indian women have the highest CAD mortality—30% higher than Whites and 325% higher than the Chinese [4]. Wenger *et al* in his review showed that among survivors of MI, 25% of men versus 38% of women die within a year after an initial MI. Within 6 years after MI, 18% of men but 35% of women will have a recurrent infarction. Women are more likely to be disabled by heart failure (30% vs. 21%) after MI. After MI they have greater prevalence of tachycardia and heart block. They also have higher rates of in hospital complications from myocardial infarction, including strokes, bleeding, shock, and cardiac rupture [5]. Friedman T. *et al* (1982) evaluated the non-invasive investigations conducted in women. The generally accepted indications for stress testing in patients with coronary artery disease include confirming the diagnosis of angina, determining the limitation of activity caused by angina, assessing prognosis in patients with known coronary artery disease, assessing perioperative risk, and evaluating responses to therapy. In patients with a clinical scenario strongly suggestive of angina, stress testing is not necessary to diagnose coronary artery disease [6]. There are two main goals in managing coronary artery disease: to reduce symptoms and ischemia and to prevent MI and death.

In the present study (52% males and 84% females) patients complained of chest pain. Sweating was the next common symptom. This was seen in (58% males and 51% females) patients. Breathlessness was seen in (40% males and 38% females) patients, nausea/vomiting in (14% males and 24% females) patients, giddiness in (12% males and 18% females) patients and palpitations in (16% males and 30% females) patients. Presenting symptoms usually include chest pain with typical radiation, nausea and diaphoresis. Milner KA *et al* conducted a study which explores gender differences in symptom presentation associated with coronary heart disease (CHD). Chest pain was the most frequently reported symptom in women (70%) and men (71%). Unadjusted analyses revealed that women were more likely than men to present with midback pain, nausea and/or vomiting, dyspnoea, palpitations, indigestion and obscure symptoms. Although they found some significant gender differences in non-chest pain symptoms, it was concluded that there were more similarities than differences in symptoms in women and men [7]. Older patients less frequently have typical signs and symptoms such as chest pain with classical radiation pattern. In the present study (48 males and 16 females) patients did not present with the chest pain, among them 8 males and 7 females were having diabetes mellitus. In a study by PS Singh, G Singh *et al*. [8] 90% of the patients presented with chest pain and only 4% patients presented with pain in abdomen as presenting symptom. According to P. yadav and D. Joseph [9] also chest pain (94%) and sweating (78%) were the most common presenting symptoms.

All patients of CAD require comprehensive andaggressive control of risk factors and early detection of symptoms. Initially medicaltherapy alone is appropriate in most patients and is the cornerstone of treatment for CAD.

Conclusion

According to the above study it can be concluded that chest pain and sweating are the most common presenting symptoms and most of the people get admitted within 24 hours of presentation of first symptom. Reduction in mortality rate with CAD is expected to achieve if patients present early to hospital.

References

1. Lloyd-Jones D, Adams R, Carnethon M *et al*. American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics--2009 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee [published correction appears in *Circulation.* 2009; 119(3):e182. *Circulation*. 2009; 119(3):480-486.
2. World Health Organization. Preventing chronic disease: a vital investment: WHO global report. Geneva, Switzerland: World Health Organization; 2005. http://www.who.int/chp/chronic_disease_report/en/. Accessed September 17, 2009.
3. Omran AR. Changing patterns of health and disease during the process of national development. In: Albrecht GL, Higgins PC, eds. *Health, Illness and Medicine: A Reader in Medical Sociology*. Chicago, IL: Rand McNally, 1979.
4. Wild SH, Laws A, Fortmann SP, Varady AN, Byrne CD. Mortality from coronary heart disease and stroke for six ethnic groups in California, 1985-1990. Ann Epidemiol. 1995; 5:432-39.
5. Becker RC, Terrin M, Ross R. Comparison of clinical outcomes for women and men after acute myocardial infarction. Ann Intern Med. 1994; 120:638-45.
6. Friedman T, Greene A, Iskandrian A, Hakki AH, Kane S, Segal B. Exercise thallium-201 myocardial scintigraphy in women: correlation with coronary angiography. Am J Cardiol. 1982; 49:1632-37.
7. Milner KA, Funk M, Richards S. Gender differences in symptom presentation associated with coronary artery disease Am J Cardiol. 1990; 84:396-9.
8. Singh PS, Singh G, Singh SK. Clinical profile and risk factors in acute coronary syndrome. Chest. 2013; 180:90.
9. Yadav P, Joseph D, Joshi P, Sakhi P, Jha RK, Gupta J. Clinical profile & risk factors in acute coronary syndrome. National J Comm Med. 2010; 1(2):150-1.