E-ISSN:2320-8686
P-ISSN:2321-127X
Research Article
Disease

International Journal of Medical Research and Review

2019 Volume 7 Number 5 September-October

Publisher
MEDRESEARCH
www.medresearch.in

Presentation of ischemic heart disease cases in tertiary care centres located in central India

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DOI: https://doi.org/10.17511/ijmrr.2019.i05.12

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Background: Cardiovascular disease, one of the non-communicable diseases, has become a major public health problem in many developing countries. There is an epidemiological transition from infective/ communicable disease to Non communicable/degenerative diseases, increases in the prevalence of cardiovascular risk factors, and ageing of the population, which eventually leads to an increase in the absolute numbers of people with coronary heart disease (CHD) especially ischemic heart disease. This will need an increase demand of health awareness and demand for health care facilities. **Aim:** To know different ways of presentation of IHD cases. **Material & Method:** In this study total 255 IHD cases aged between 21 to 90 years were assessed between April 2017 to March 2018. Study was conducted in tertiary care centre located I central India. Informed consent was taken from patients or their relatives in case of unconsciousness of patient. **Result:** Total 255 patients were enrolled in this study out of which 175 were male with mean age of 58.57±7.2 years and 80 female patients were enrolled with mean age of 63.14±4.6 years. 18 patients were died. Most of the patients (59.22%) were mainly came with complain of chest pain. Other patients were coming with complain of breathlessness (7.06%), nausea/ vomiting (8.24%) and uneasiness (8.23%). **Conclusion:** over the time after independence trends and presentation of cardiovascular diseases especially ischemic heart disease is change. Knowing of current way of presentation is important. As disease trend is changing, knowledge of their pattern and availability of health resources accordingly is must.

Keywords: Cardiovascular disease, Ischemic heart disease, Coronary artery disease, Chest pain

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How to Cite this Article

Nayak OP. Presentation of ischemic heart disease cases in tertiary care centres located in central India. Int J Med Res Rev. 2019;7(5):430-436.
Available From
https://ijmrr.medresearch.in/index.php/ijmrr/article/view/1091

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Manuscript Received	Review Round 1	Review Round 2	Review Round 3	Accepted
2019-09-04	2019-09-14	2019-09-19		2019-09-23

Conflict of Interest	Funding	Ethical Approval	Plagiarism X-checker	Note
No	Nil	Yes	6%	

Introduction

Over the last seventy there is change in disease pattern in south east asian region. Ischemic heart disease (IHD) represents the leading cause of death in elderly [1]. Ischaemia means a reduced blood supply. The coronary arteries supply blood to the heart muscle and no alternative blood supply exists, so a blockage in the coronary arteries reduces the supply of blood to heart muscle. Most ischaemic heart disease is caused by atherosclerosis, usually present even when the artery lumens appear normal by angiography [2-4].

The presentation of ischemic heart disease varied from site to site and continent to continent. Presentation is different in male and females this is because of some biological factors, social, environmental, and community factors [5]. Mortality because of ischemic heart disease is increases with day passes. This was mainly because of unavailability of health facilities at rural levels and urban slums, Mode of transportation and communication is less and population explosion [4-8].An expanded view of the multifactorial epidemiology of IHD has identified important risk factors, including age, race, culture, ethnicity, and lifestyle influences that adversely impact cardiovascular outcomes.

Hypertension, diabetes mellitus, and smoking are more potent risk factors for MI in all age group. Key contributory factors to progression of atheromatous disease include smoking, hypertension, hyperlipidaemia, diabetes, and obesity [7-9]. Chest discomfort in the setting of exertion or emotional stress is the predominant clinical presentation of chronic stable angina. The typical presentation is exertional, or stress induced central chest pain. These episodes usually last from a few minutes to hours and can resolve upon rest. Common descriptions by the patient include tightness, crushing stabbing or burning pain. Patients may also have nausea and vomiting, dyspnoea, palpitations [10].

Typical symptoms increase the likelihood of an acute myocardial infarction (AMI) however atypical presentations cannot be used to exclude AMI. Women, the elderly and those with diabetes mellitus often present with atypical chest pain. Atypical presentations, including pain in the epigastrium, jaw, neck, or arms are also common, particularly in women, people with diabetes, and older people.

Although the ECG is relatively insensitive, the presence of ST segment elevation however is 100% diagnostic for AMI and serves as the criterion for immediate induction of fibrinolytic therapy or emergency interventional revascularization [9-12].

In acute MI condition time to reach to health facility is also important and many studies showed that each minute is important. With this background this study was planned to know the presentation of ischemic heart disease cases in tertiary care centres and what are the different ways of their presentation.

Methodology

Setting: This study was conducted on tertiary care centre located in Bhopal city.

Study Duration: The study duration was April 2017 to March 2018.

Type of Study: Cross sectional Study

Sampling method: All the cases coming to medicine OPD during the study period suspecting symptoms of Ischemic Heart disease that include both based of history or with atypical symptoms but having characteristic changes in Electrocardiography were included in the study.

Sample size calculation: This study included all the cases came during the study duration. In this duration total 295 cases reported at the centre out of which 40 were excluded based on exclusion criteria. Sample size of study was 255 between age group of 21 to 90 years.

Data collection procedure: Patients details along with clinical history was recorded in predesigned semi-structed questionnaire. This data collection tool included their demographic data, Signs and symptoms, past and family history.

Data analysis plan: Data was entered in Microsoft office excel and analysed.

Ethical consideration and permission: This study was approved by institutional ethical committee and informed consent was obtained from all participants.

Result

In this study total 255 cases came in medicine department OPD and Emergency during the study period with ischemic heart disease.

The patients were from age of 21 to 90 years. Most of patients were belong to age group of 51 to 60 years (32.5%) and 61 to 70 years (27.8%) (Table 1). The mean age of participants was 59.43±5.3 years. When differentiated in male and females, mean age of male patients was 58.57±7.2 and female patients was 63.14±4.6 years. Among all the patients 175 were male and 80 were females. Total 18 (7.05%) patients were died. Out of these 18 died patients, 12 were male and 6 were female (Figure 1).

Table-1: Distribution of Cases according to age Group

Age Group	Number	Percentage
21-30	5	2.0
31-40	10	4.0
41-50	34	13.3
51-60	83	32.5
61-70	71	27.8
71-80	39	15.3
81-90	13	5.1
Total	255	100

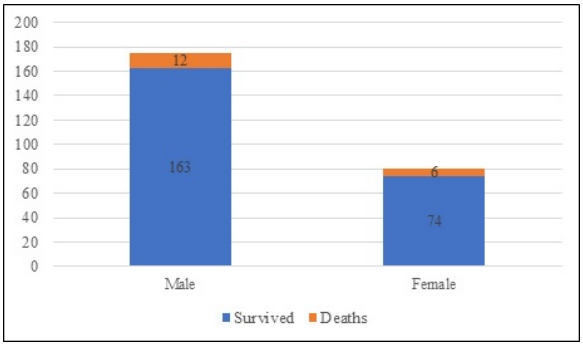

Figure- 1: Deaths in a different sex distribution.

Table-2: Distribution of Cases according Presenting Symptoms

Presenting Symptoms	No. of Cases	Percentage
Chest Pain	151	59.22
Palpitation	6	2.35
Breathlessness	18	7.06
Perspiration	13	5.10
Nausea/ vomiting	21	8.24
Cough	5	1.96
Fever	3	1.18
Abnormal Behaviour	1	0.39
Uneasiness	21	8.23
Shock	4	1.56
Drowsy	2	0.78
Vertigo	3	1.18
Unconsciousness	3	1.18
Loose Motion	1	0.39
Asymptomatic (Silent)	3	1.18

Table-3: Time interval between onset of symptoms and arrival to the hospital.

Time Interval	No. of Cases	Percentage
Within 1 Hour	31	12.15
1 hour to Less than 6 hours	64	25.10
6 Hour to less than 24 hours	128	50.20
After 24 Hours	32	12.55

Table-4: Different sites of radiation pain.

Radiation Sites	No. of Cases	Percentage
Neck & Jaw	28	10.98
Left Arm	34	13.33
Epigastric Pain	11	4.31
Both Arms	17	6.66
Back	10	3.92
None	155	60.78

Table-5: Past history, personal and family history related to IHD.

Past History	No. of Cases	Percentage
Hypertension	150	58.82
Diabetes	99	38.82
Ischemic heart disease	96	37.64
Chronic kidney disease	2	0.78
Stroke	2	0.78
No Past History	37	14.50
Family History		
Hypertension	73	28.62
Diabetes	19	7.45
Ischemic heart disease	19	7.45
No family history	115	60.78
Personal History		
Veg diet	102	40.00
Non-veg diet	153	60.00
Smoking	117	45.88
Alcohol	97	38.04
Tobacco chewing	17	6.66

Most of the patients (59.22%) were mainly came with complain of chest pain. Other patients were coming with complain of breathlessness (7.06%), nausea/ vomiting (8.24%) and uneasiness (8.23%) (Table 2). Time interval between onset of symptoms and arrival to hospital is very important. Only 31 patients (12.15%) came within one hour of onset of symptoms. 64 and 128 patients were coming between 1 to 6 hour and 6 hours to 24 hours respectively (Table 3). There were 100 patients who had radiation pain.

This pain is mainly radiating toward Neck and jaw in 10.98% patients, Left arm in 13.33% patients and 6.66% in Epigastric area. (Table 4).

There were 150 patients (58.82%) had past history of hypertension, 99 (38.82%) had diabetes and 96 (37.64%) patients had history of ischemic heart disease. The family history is also an important factor for diagnosis. In this study 73 patients (28.62%) had family history of hypertension, 19 (7.45%) diabetes and 19 (7.45%) had family history of ischemic heart disease. But 115 (60.78%) patients did not have any family history. There were 102 patients had vegetarian diet and 153 patients were on non-vegetarian diet. 117 patients (45.88%) were had history of smoking and 97 patients (38.04%) had history of Alcohol intake (Table 5).

Discussion

Epidemiological studies revealed that incidence and prevalence of Ischemic heart disease is increasing day by day and increase trend is seen in risk factor of these diseases. This study had a total of 255 patients with 170 male and 80 females. This study showed that 60.3% were in the age group of 51 to 70 years. Indians have one of the highest rates of heart disease in the world.

The disease also tends to be more aggressive and manifests at a younger age. 18 patients came to institute were died [13]. Women suffering from acute coronary syndrome or myocardial infarction are likely to be older: are more likely to have a history of hypertension, diabetes, unstable angina, hyperlipidemia, and congestive heart failure; and are less likely to be smokers than their somewhat higher than male counterpart [14-17].

Out of these 18, about 10 had complain of chest pain and rest 8 were without complain of chest pain they only complain of breathlessness and uneasiness. This finding is quite consistent with finding of other study stated that patients who experienced MI with chest pain had less likely to die than compared with patients with chest pain [18].

The main reason behind that was delay in seeking care and delay in receiving important therapy. In the present study chest pain was the most common presenting complaint followed by sweating and breathlessness. Presenting symptoms usually include chest pain with typical radiation, nausea and diaphoresis. Older patients less frequently have typical signs and symptoms such as chest pain with classical radiation pattern.

In the present study some patients did not present with the chest pain, among which many were having diabetes mellitus.

Diabetic patients are likely to present with the atypical symptoms. Similar finding was found in many other studies [19-23]. This study showed that 58.82% had hypertension and 38.82% had diabetes. Similar finding was observed in Study of Kumar N et al where 40.40% were diabetic and 45.72% were hypertensive. Some studies said that diabetes was a important risk factor for a typical presentation.

Some other risk factors for atypical presentation are older age group female sex and past past history of congestive heart failure [24-25.] This study was conducted in tertiary care center located in one of the largest city of central India and many cases of adjacent part came to this hospital at the late stage so it might be the case that this study showed large mortality and complications. This study also gave some recommen-dations to give special focus on non communicable disease whose incidence and prevalence is increasing day by day.

Conclusion

IHD is one of the most important causes of mortality and morbidity in the India. It also leads to massive economic burden. Modern lifestyle is a causative factor for non-communicable diseases. The findings of this study indicate that the trends, incidence and prevalence of coronary artery disease and coronary risk factors is increasing in urban and rural population in India. Some more research is required to assess the impact of physical activity, dietary habit changes and reduced use of poly unsaturated fatty acid, no smoking, and controlling blood pressure and cholesterol. It was always said that prevention is better than cure so in case of IHD is very much true. Assessment of different pattern of presentation of IHD cases is important for early identification of cases.

What the study adds to the existing knowledge?

The present study is indicative of the fact about the increasing trends in cases of IHD in central India, which further establishes the necessity of planning a more in-depth research studies required to assess the role of various other factors for identification of IHD cases.

Acknowledgement: Author would like to thank to all staff working in my department for helping me in conduction of this study and also supporting me in each and every step.

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