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Original Research Article

Study of Risk Factors In Myocardial Infarction In Particular Reference to Life Style, Diet and Addiction

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ABSTRACT

Background: Cardiovascular disease (CVD) has emerged as a major health burden worldwide. The Asian Indian whether living in their own country or elsewhere have much higher incidence of CVD as compared to all other ethnic groups. Within the Indian subcontinent also, there has been a rapid rise in CVD prevalence. Presence of multiple risks in patients further accelerates the incidence of atherosclerosis. To identify prevalence of such risk factors and which will help to plan for making policy in view of reducing the incidence and prevalence of these risk factors leading to morbidity and mortality of CVD, this study was under taken.

Methods: The present study was case control study, carried out at tertiary care hospital in patients admitted with Myocardial Infarction and with control group admitted in wards over a period of 2 years. All patients were interviewed and examined while in hospital, all the information was filled up in a specially-designed preset format.

Results: In this study, 189 patients of Myocardial Infarction were studied. Majority of patients were in the age group of 41-60 (46.56%) years. 122 (64.55%) patients were males and 67 (35.44%) were females. 104 (55.02%) cases were from urban locality and 85 (45.98%) patients from rural locality. . Among 189 cases of MI, 53 (28.04%) cases had BMI> 25 Kg/M^2 and 136 cases had BMI < 25 Kg with odd ratio of 3.39 which was statistically significant ($p<0.05$). 163 (86.24%) cases had lack of vegetables and fruits in daily diet which was statistically significant ($p<0.05$). 58 (30.69%) patient were having oil and ghee consumption of > 40 gms/day. 161 (85.19%) patients were consuming salt > 5 gms/day ($p< 0.05$). 157(83.07%) patients were having sedentary lifestyle ($p<0.0001$). 44(23.28%) cases were having type A personality ($p<o.05$). 73(38.62%) patients were having betel nuts chewing addiction. 86(45.50%) were having gutkha chewing. 15 (17.94%) cases were having alcohol addiction (>60 gms/day) ($p>0.05$). 84(44.44%) patients were consuming smokeless tobacco ($p<0.005$).

Conclusions: Myocardial infarction was more common in middle age, in males and in overweight. Lack of fruits and vegetables in diet, oil and ghee consumption of >40 gms/day, salt > 5 gms/day, Sedentary lifestyle and Type A personality had significant correlation. Smokeless tobacco, betel nut and gutkha had significant association. Alcohol consumption had no significant association with CVD.

Keywords: Cardiovascular disease, Myocardial infarction, lifestyle, Alcohol.

INTRODUCTION

Cardiovascular diseases are at present the leading cause of death in developed countries. Ischemic heart disease is the cause of 25 - 30% of death in most industrialized countries. [(1)]

It is predicted that coronary heart disease (CHD) will surpass infectious diseases as the world's number one cause of death and disability. [(2)]

Cardiovascular disease (CVD) has emerged as a major health burden worldwide. CVD contributes to 15.3 million in 1996, of which 5.5 million was from developed countries and 9.77 million from developing countries. [(3)]

The Asian Indian whether living in their own country or elsewhere have much higher incidence of coronary heart disease (CHD) as compared to all other ethnic groups. It is consistently observed that Indians have premature CAD and that their risk for CAD was two to four times higher than the white European population. [(4)] The recent SHARE study showed a CAD prevalence of 10.7% among South Asians compared to 4.5% in Europeans. [(5)]

In a recent study of subject aged 40 years and above, the prevalence was shown to be 14.3%. Of CAD in The Chennai Urban Population Study (CUPS) carried out in 1262 individuals > 20 years of age showed the crude prevalence of CAD to be 11% while the aged-adjusted prevalence rate was 9.0%. [(11)] Thus the prevalence of CAD appears to be ten times higher in Indian compared to that reported 40 years ago and the prevalence urban Indians is fast approaching the figures reported in migrant Indians. [(6)] To identify prevalence of risk factors and which will help to plan for making policy in view of reducing the incidence and prevalence of these non-conventional risk factors leading to morbidity and mortality of CVD, this study was under taken.

Aims and Objectives

1) To find out prevalence of risk factors particularly life style, dietary habits and addiction in patients of myocardial infarction.
2) To find out any specific risk factor amongst life style, dietary habits and addiction for myocardial infarction.

MATERIALS AND METHODS

The present study was case control study, carried out at tertiary care hospital in patients admitted with Myocardial Infarction with control group admitted in wards over a period of 2 years. Permission was taken from the ethical committee, of the institute before carrying out the study. An informed written consent was taken from all the enrolled subjects after a full explanation of the purpose of study and liberty to drop out. All the patients were interviewed and examined while in hospital, all the information was filled up in a specially-designed preset format.

RESULTS

1) In this study, 189 patients of Myocardial Infarction (MI) were studied.
2) Majority of patients of MI were in the age group of 41-60 (46.56%) years.
3) Out of 189 patients of MI, 122 (64.55%) patients were males and 67 (35.44%) were females.
4) Out of 189 cases of MI, 104(55.02%) cases were from urban locality and 85 (45.98%) patients from rural locality.
5) Among 189 cases of MI, 53 (28.04%) cases had BMI> 25 Kg/M^2 and 136 cases had BMI < 25 Kg with odd ratio of 3.39 which was statistically significant ($p<0.05$).

This study showed BMI> 25 kg/m^2 had significant association with MI.

6) Out of 189 patients of MI, 53 (28.04%) cases had WHR > 90 cm and 123(65.08%) had WHR < 90 with odd ratio 3.29which was statistically significant (p< 0.05). This study showed WHR> 90 cm had significant association MI.
7) Among 189 cases of MI,26 (13.76%) cases were consuming vegetables and fruits in the diet daily and 163 (86.24%) cases had lack of vegetables and fruits in daily diet with odd ratio of 0.21 which was statistically significant (p<0.05). This study showed lack of fruits and vegetables in daily diet had significant association with MI.
8) Out of 189 cases of MI, 58 (30.69%) patient were having oil and ghee consumption of > 40gms/day and 131 (69.31%) patients were having oil and ghee consumption of < 40gms/day with odd ratio of 2.94 which was statistically significant (p<0.05).Thus oil and ghee consumption of >40gms/day had significant association with MI.
9) In total 189 cases of MI, 161 (85.19%) patients were consuming salt > 5gms/day and 28 (14.81%) patient were not consuming salt > 5gms/day with odd ratio of 9.32 which was statistically significant (p< 0.05). This study showed consumption of salt > 5gms/day had significant association with MI.
10) Among all cases of MI, 157(83.07%) patients were having sedentary lifestyle and 32(16.93%) were non sedentary lifestyle with odds ratio 6.68 which was statistically significant (p<0.0001). This study showed sedentary lifestyle had significant association with MI when compared with controls (p<0.05).
11) Out of 189 cases of MI, 44(23.28%) cases were having type A personality and 145(76.72%) cases were not having type A personality with odd ratio of 0.14 which was statistically significant (p<o.05). This study showed type A personality had significant association with MI.
12) Among 189 cases of MI, 73(38.62%) patients were having Betel nuts chewing addiction and 116(61.38%) were not having Betel nuts chewing addiction with odd ratio of 3.20 which was statistically significant (0.0<0.05).This study had showed that betel nut chewing had significant association with MI.
13) In total cases 189 of MI, 86(45.50%) were having Gutkha chewing and 103 (54.50%) were not having Gutkha chewing addiction ratio of 2.96 which was statistically significant (p<.0.05).This study had showed gutkha chewing had significant association with MI.
14) Out 189 cases of MI, 15(17.94%) cases were having alcohol addiction (>60gms/day) with OR 1.65 which was statistically not significant (p>0.05). This study showed no significant association with alcohol consumption.
15) Among 189 cases of MI, 84(44.44%) patients were consuming smokeless tobacco (tambaku) and 105(55.56%) are not consuming smokeless tobacco with odd ratio of 2.70 which was statistically significant (p<0.005). This study showed significant association with consumption of tobacco.

DISCUSSION

The present study was carried out at tertiary care hospital. The duration of study was 2 years. The study sample was patients admitted in our hospital with newly diagnosed cardiovascular diseases (MI and CVA) after meeting the inclusion and exclusion criteria.

Out of 189 cases of MI, 88 (46.56%) cases were in 41- 60 years of age group.

Among 189 patients of MI, in our study 99(52.38%) patients were from urban locality and 90(47.62%) patients from rural locality. According to Gupta R et al, [7] CVD is epidemic in urban regions of low income countries such as India.

This study showed BMI > 25 kg/m^2 had significant association with MI. This result was similar with the study done by Krisela Steyn et al [8]

This study showed WHR > 90 cm had significant association with MI. This result was similar with study done by Rajeev Gupta et al. [9]

This study showed mixed diet had no significant association with MI. These results were similar to the study done by Rohit V. Ram et al. [10]

Oil and ghee consumption of > 40gms/day had significant association with MI when compared with controls. This result was similar to study done by Rohit V. Ram et al. [10]

Thus our study showed salt consumption > 5gms/day had significant association with MI. This result were similar to study done by Rohit V. Ram et al. [10]

Thus our study showed sedentary lifestyle had significant association with MI. This result were similar to study done by Rajeev Gupta et al. [9]

This study showed stress had significant association with MI. This result were similar to study done by Sayed Muhammad Adann Shah et al. [11]

This study showed alcohol consumption > 60gms/day had not significant association with MI. This result were similar to study done by Salim Yusuf et al., [12] Krisela Steyn et al. [8] and Rohit V. Ram et al. [10]

This study showed that smokeless tobacco consumption had significant association with CVA. These results are similar to the findings mentioned in Report on oral tobacco use and its implication in South East Asia by WHO. [13]

CONCLUSIONS

This study was undertaken to study the non conventional risk factors in MI with particular reference to diet, life style and addiction. From this study we conclude that-

1) MI was more common in middle age.
2) MI was more common in males.
3) Over weight had significant association with MI.
4) Central obesity had significant association with MI.
5) Lack of fruits and vegetables in diet had significant association with MI.
6) Mixed diet had no significant association with MI.
7) Oil and ghee consumption of >40gms/day had significant association with MI.
8) Salt > 5gms/day had significant association with MI.
9) Sedentary life style had significant association with MI.
10) Type A personality had significant association with MI.
11) Smoking had no significant association with MI.
12) Smokeless tobacco, betel nut and gutkha had significant association with MI.
13) Alcohol consumption had no significant association with MI.

Thus besides conventional risk factors like Age, Gender, HTN, DM, preventable and

modifiable non conventional risk factors are important aetiology behind the occurrence of MI. Controlling of these risk factors may significantly reduce the incidence of MI.

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