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Original Research Article

Analysis of the role of risk of factors like obesity, Diabetes Mellitus, hypertension, smoking, dyslipidemia, alcoholism, tobacco chewing in Myocardial infarction Patients.

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Abstract

Background & Methods: The aim of the study is to study analysis of the role of risk of factors like obesity, Diabetes Mellitus, hypertension, smoking, dyslipidemia, alcoholism, tobacco chewing in Myocardial infarction Patients.

Results:

Conclusion: Prevalence of smoking is less in our study than the similar population with young MI <40 years of age. Prevalence of tobacco chewing is less in our study population than that of Indian population of similar age. In our study group prevalence of hypertension is not more than the prevalence of hypertension in similar patients with young MI<40 years, whereas it is less as compared to prevalence of hypertension in MI patients of all age groups. Anterior wall MI was the most common type of MI in our study group as compared to inferior wall MI.

Keywords: obesity, DM, hypertension, myocardial & infarction.

Study Design: Observational Study.

Introduction

Coronary artery disease causes more deaths & disability & incurs economic cost than any other illness in the developed world. Acute myocardial infarction (AMI) is the most serious in the spectrum of CAD.

The early (30-day) mortality rate from AMI is app. 20%, with more than half of these deaths occurring before the stricken individual reaches the hospital[1].

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Although mortality rate after admission for AMI has declined by 30% over the past two decades approximately 1 of every 25 patients who survive initial hospitalization dies in the first year after AMI[2].

It was first reported in Singapore in 1959 that people hailing from Indian subcontinent had a higher probability of dying due to coronary artery disease. Numerous studies over the past four decades only confirmed their initial suspicion. Studies conducted in different part of the world showed predominance of coronary artery disease in patients from Indian subcontinent[3]. This points towards the importance of coronary artery disease in Indian population.

Epidemiologic & clinical data from the studies performed on young adults with premature AMI have shown that the occurrence of myocardial infarction in young people is uncommon (2% in GISSI study), prognosis in short-term outcome is good (mortality rate <2% in GISSI study), & conventional risk factors are usually present despite the observation that the cardiovascular risk profile is peculiar when compared with older patients[4]. Young patients, in fact, have significantly higher rates of smoking, dyslipidemia, & family history of CAD, whereas diabetes & hypertension are more frequent in the older patients[5-6].

Material & Methods

Patients admitted in hospital ICCU were subjected to thorough clinical evaluation, standard 12-lead electrocardiography & blood sample was drawn for laboratory evaluation. Patients were also evaluated for major conventional risk factors including Hypertension, Diabetes Mellitus, smoking, dyslipidemias, smoking, obesity & previous cardio-vascular event like previous MI & stroke.

Patients were managed according to the standard protocols. No interventions were taken as a part of study, which deviates the management of patient from standard protocols. Patients with typical chest pain suggestive of myocardial ischemia even without ECG changes mentioned above, was admitted & evaluated.

CRITERIAS

- Age ≤ 40 years
- Myocardial infarctions were diagnosed according to ACC/AHA guide lines.
- Patient should be willing for follow up, & relevant investigations.

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Result

Table 1: Showing Types of MI

Type of mi	No. of patients	Percentage
AWMI	58	58
IWMI	32	32
RVMI	10	10
Post WALL MI	04	04

From the above data AWMI (58%) is more prevalent among young patients than IWMI (32%) RVMI (10%) & posterior wall MI is rare (4%). All the patients with RVMI & Posterior wall MI had associated IWMI.

Table 2: Showing Symptom Analysis

Symptoms	No. of patients	Percentage
Typical chest pain	76	76%
Sweating	70	70%
Nausea / vomiting	08	8%
Breathlessness	32	32%
Palpitation	10	10%
Syncope	00	00

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Typical chest pain is the most common symptom in young MI patients (76%), followed by sweating in 70% of patients. Breathlessness is seen in 32% of patients. Nausea /vomiting (8%) & palpitation (10%) are rarely seen.

Table 3: Showing Risk Factor Analysis

Risk factors	No. of patients	Percentage
Obesity	10	10%
Diabetes mellitus	06	6%
Dyslipidemia	14	14%
Alcohol consumption	28	28%
Smoking	44	44%
Tobacco chewing	20	20%
Family history	14	14%
Hypertension	24	24%

From the above data, smoking is highly prevalent (44%) followed by alcohol consumption (28%) & hypertension (24%) among young males.

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Table 4: Incidence of post mi angina in various groups

Symptoms	No. of patients	Total	Percentage
Total	38	100	38%
Male	32	82	32%
Female	67	18	67%
Post MI angina in thrombolysed patients	38	32	38%
Post MI angina in Non-thrombolised	38	68	38%

During this study of 100 patients 38% had Post MI Angina. Among those 26 out of 82 males (32%) as compared with 12 out of 18 females (67%) had Post MI Angina. Total patients who developed in thrombolysed group is 12 out of 32 patients (38%) & 26 out of 68 patients in Non thrombolysed group (38%).

Discussion

In our study prevalence of smoking was 44% amongst the patients. In a study conducted by Akram H. Al-Khadra et al in patients <40 years of young MI, showed a prevalence of 76.9% of smoking, similar results were obtained from young Mi patients from USA & Italy. So, prevalence of smoking is less in our study group as compared to the above mentioned studies[7].

Rajadurai et al has done studies in young Malaysian Indians. This study includes 5I young Indians & 40 non-Indians with CAD & found no significant difference of smoking between two groups[8]. In Rajasthan, prevalence of cardiovascular risk factors was found to be similar among 200 tobacco chewers & 200 smokers (except for obesity), in a population- population- based case-control study also comprising 200 age & gender-matched controls with no history of tobacco use. Tobacco chewers had a significantly higher ($P < 0.001$) systolic & diastolic blood pressure, resting heart

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rate, total cholesterol, LDL cholesterol & triglycerides compared to the controls & these values were similar to the smoker group. There was also a significantly greater ($P < 0.01$) prevalence of hypertension, positive stress test & other risk factors in the tobacco chewer group compared to the control group[9].

Our study showed a prevalence of 24% of hypertension in young MI patients. We compare it with populations with different age & race as follows. A study by Akram H. Al-Khadra et al had a prevalence of 18% of hypertension in young MI patients; same study also compared the Italian population with young MI (GISSI) with a prevalence of 12% & prevalenceof 26% in the population of USA with young MI[10-11].

Our study group was comparable with above mentioned study group[16] which has 65% of patients from Indian subcontinent. It shows a low prevalence of hypertension 18.5% as compared with a prevalence of 32.2% of all MI[12].

Conclusion

Prevalence of smoking is less in our study than the similar population with young MI <40 years of age. Prevalence of tobacco chewing is less in our study population than that of Indian population of similar age. In our study group prevalence of hypertension is not more than the prevalence of hypertension in similar patients with young MI<40 years, whereas it is less as compared to prevalence of hypertension in MI patients of all age groups. Anterior wall MI was the most common type of MI in our study group as compared to inferior wall MI.

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