ORIGINAL ARTICLE

Comparison of Risk Factors in Patients with Atypical Chest Pain screened for Ischemic Heart Disease

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ABSTRACT

The aim of this study was to evaluate the frequency of already established known risk factors of ischemic heart disease in certain groups of patients with atypical chest pain. A total number of 50 subjects were eventually screened and included in the study on the basis of inclusion and exclusion criteria and the relevant data were recorded on the pre-designed pro forma. After careful evaluation and exercise tolerance test these subjects were divided into two groups. Group 1 was labeled as study group consisted of 25 subjects with positive exercise tolerance test for stable angina pectoris. Group 2 was labeled as control group consisted of 25 subjects with negative exercise tolerance test for stable angina pectoris. In the study group 7 (28%) were type 2 diabetics, 17(68%) were found to have positive family history of ischemic heart disease and 14(56%) had positive history of smoking. In the control group 4(16%) patients were type 2 diabetics, 16(64%) with positive family history of ischemic heart disease and 4(16%) had positive history of smoking. Results showed tobacco use as principal modifiable risk factor for ischemic heart disease.

Keywords: Ischemic heart disease, Risk factors.

INTRODUCTION

Inadequate supply of oxygen and blood due to imbalance between the demand and supply of oxygen to the myocardium causes a disorderly condition of Ischemic heart disease (IHD). The ischemic heart disease is commonly caused by atherosclerotic narrowing of a coronary artery sufficient to cause reduction in myocardial perfusion. Population mostly to be affected is men in the region of South Asia. Incidence of IHD is increasing throughout the world & IHD seems to become the commonest cause of mortality across the world by 2020[1].

Angina pectoris is the leading symptom, which is central chest pain, feeling heaviness and compression inside the chest, epigastric burning which may be felt in the chest too[2].

Patients with suspected angina can undergo various screening tests and exercise tolerance test is easy noninvasive clinical test for evaluating the suspected patients of inducible stable angina pectoris. [3, 4] Exercise tolerance test can be done with a bicycle ergometer or motored treadmill. The most common exercise protocol used is Bruce protocol[2].

The objective of the study was to evaluate various risk factors predisposing to ischemic heart disease in local population.

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MATERIAL AND METHODS

Informed consent was taken on the consent form in both English and Urdu languages. Relevant history and general physical examination was recorded on the pro forma. A total number of 50 subjects were included in the study after careful evaluation and exercise tolerance test these subjects were divided into two groups.

Group 1 was named the study group, consisted of 25 patients with positive exercise tolerance test for stable angina pectoris.

Group 2 was named the control group, consisted of 25 patients with negative exercise tolerance test for stable angina pectoris.

RESULTS

In the study group 7(28%) patients were having diabetes mellitus. 17(68%) patients were found to have positive family history of ischemic heart disease and 14(56%) patients were found to have positive history of smoking.

In the control group 4(16%) patients were having diabetes mellitus. 16(64%) patients were found to have positive family history of ischemic heart disease and 4(16%) patients were found to have positive history of smoking.

Then study and control groups were compared statistically. The frequency of positive family history for ischemic heart disease in study group was (68%) and in the control group was (64%).The difference was found to be in significant statistically (P<0.765)

Table 1: Frequency of positive family history of IHD in the study and the control group

Positive Family History	%age
Study group	68
Control group	64

The difference in frequencies of diabetes mellitus was found to be higher 28% in study group as compared to 16% in the control group. The difference was found to be in significant statistically (P<0.306).

Table 2: Frequency of diabetes mellitus in the study and the control group

Diabetics	%age
Study group	28
Control group	16

Major difference in frequencies of positive history of smoking was found as it was only 16% in the control group as compared to 56% in the study group. The difference was found to be significant statistically (P<0.003).

Table 3: Frequency of smoking in study and control group

Smokers	%age
Study group	56
Control group	16

DISCUSION

In our study family history of ischemic heart disease and smoking emerged as leading risk factor predisposing to ischemic heart disease. Unfortunately positive family history is a non-modifiable risk factor but smoking is a very much controllable risk factor. Lavi S et al reported that Smoking is associated with epicardial coronary endothelial dysfunction and elevated white blood cell count in patients with chest pain and early coronary artery disease[5].

In a local study Nadeem M et al reported smoking (46%) as risk factor for coronary artery disease in a group of patients under 45 years of age[6]. Puricel S et al reported smoking as highest risk factor (81%) among a group of patients who suffered acute coronary syndrome below the age of 30 years[7]. Tungsubutra W et al reported tobacco use as high as 66% in patients with active angina pectoris below the age of 45 years and further suggested some national preventive strategies against the use of tobacco. [(8)] Our study also showed tobacco use as principal modifiable risk factor for ischemic heart disease so we suggest too that our government must impose a complete ban on advertisement of all forms of tobacco on all types of media and heavy tax should be levied to retard the use of all forms of tobacco products in all the walks of society. In a similar study in Oman, Panduranga P et al reported smoking (47%) as major risk factor for coronary artery disease and emphasized that there is an urgent requirement for programs to prevent and control smoking[9].

In our study diabetes mellitus was reported 28% in the stress test positive study group which is consistent with global trends. Pellaton C et al reported diabetes mellitus 18.8% in his study of young myocardial infarction patients[10]. Nadeem M et al in a local study reported diabetes mellitus 18% in a group of coronary artery disease in patients younger than 45 years[6]. Gheydari ME et al showed very strong positive results of stress testing (77%) among diabetics with atypical chest pain[11].

CONCLUSION

Smoking is the most important modifiable risk factor for angina pectoris, Heavy tax should be imposed by the government on tobacco products and there should be a strict ban on tobacco advertisements in all the types of print and electronic media.

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