ORIGINAL ARTICLE

Different Risk Factors for Ischemic Heart Disease

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ABSTRACT

Aim: To determine the different risk factors for Ischemic Heart Disease.
Study Design: Cross-sectional study.
Place of study: Department of cardiology Hayatabad Medical Complex, Peshawar
Duration of study: 6 months
Methodology: A total of 160 patients with Ischemic Heart Disease were included by using the WHO calculator with a margin of error of 5% and a confidence interval of 95%. A detailed history regarding clinical features of IHD and the risk factors was rcorded. Ischemic heart disease was confirmed by angiography and echocardiography.
Results: Out of 160 cases, 102 were males and 58 were females. 43 were between 18-40 years, 54 between 41-60 years, and 63 were above 60 years of age. Among these, 74 patients were having dyslipidemia, 34 were hypertensive, 42 were Diabetic, 68 were smokers and 117 patients were over-weight (BMI>27). 132 patients were having more than one risk factor.
Conclusion: Different risk factors in descending order are higher BMI (above 27), dyslipidemia, smoking, diabetes, and hypertension. The majority of the patients were having more than one risk factor.
Keywords: Ischemic Heart Disease, Dyslipidemia, Hypertension

INTRODUCTION

Coronary artery disease is a condition in which there is atherosclerosis of the coronary arteries causing myocardial ischemia[1]. It is presented as angina pectoris and to acute coronary syndrome (ACS) thus leading too many complications e.g. heart failure, arrhythmias, and cardiac arrest. IHD is the most common cause of death worldwide[2]. The prevalence of IHD is more in males than females[3]. Incidence of IHD is rising in population with poor socioeconomic status like Pakistan, India, and Bangladesh[4].The mortality related to IHD is showing a downward trend in the developed world[5,6].

METHODOLOGY

This cross-sectional study was conducted at the Department of cardiology Hayatabad Medical Complex, Peshawar after approval from the hospital ethical committee for duration of 06 months. Sampling was done through non probability consecutive sampling from 160 patients with a margin of error of 5% and a confidence interval of 95%. All patients of age >18 years with IHD were included in the study and detailed history was recorded regarding the risk factors. Patients with congenital heart diseases, familial dyslipidemias, and patients with coagulopathies were excluded from the study. The diagnosis of IHD was made by history, clinical features, and confirmed by angiography and echocardiography. Risk factors were defined according to the accepted guidelines;

Hypertension as Systolic Blood Pressure ≥140mm of Hg, and diastolic ≥ 90mm of Hg constantly or patient on antihypertensive medications

Diabetes with Fasting Blood Sugar ≥126mg/dl or Random Blood Sugar ≥200mg/dl Dyslipidemia with total cholesterol ≥ 200mg/dl, Non-HDL cholesterol ≥ 160mg/dl or HDL cholesterol < 40 mg/dl.

RESULTS

The detail of results is given in tables 1, 2, 3, 4

Table 1: Gender Distribution

Gender	n=	%age
Male	102	63.75
Female	58	36.25
Total	160	100

Table 2: Age Distribution

Age(Yrs)	n=	%age
20 – 40	43	26.88
41 – 60	54	33.75
> 60	63	39.37

Table 3: Gender distribution of different risk factors for ischemic heart disease

Factors		Male			Female			Total	
		n=	%age of Factors	%age of Total Patients	n=	%age of Factors	%age of Total Patients	n=	%age of Total Patients
Dyslipidemia		48	64.86	30	26	35.13	16.25	74	46.25
Hypertension		19	55.88	11.87	15	44.12	9.37	34	21.25
Diabetes		23	54.76	14.37	19	45.24	11.88	42	26.25
Smoking		66	97.05	41.25	2	2.94	1.25	68	42.50
BMI	<27	28	65.11	17.50	15	34.88	9.37	43	26.87
	27-30	35	64.81	21.87	19	35.18	11.87	54	33.75
	>30	39	61.90	24.37	24	38.10	15	63	39.38

DISCUSSION

In our study, we emphasized the major modifiable risk factors of ischemic heart disease like high BMI, dyslipidemia, smoking, diabetes mellitus, and hypertension. Along with these factors, two non-modifiable risk factors were also studied. It was found that high BMI was the strongest modifiable risk factor for ischemic heart disease with the highest percentage of 73.1% in IHD patients. The second most common modifiable risk factor was dyslipidemia of 46.25% followed by smoking of 42.5%, diabetes with a frequency of 26.25%, and hypertension of 21.25%. 82.5% of the IHD patients were having a combination of the risk factors. Regarding non-modifiable risk factors, the risk of IHD was directly proportional to the advancing age with 39.37% of the patients above 60 years of age, and males (63.75%) were more prone to IHD as compared to females (36.25%) of the same age.

In another study, it is found that the frequency of overweight and obesity among IHD patients was 42.7% and hypercholesterolemia was 48.2% and that of hypertriglyceridemia was 42.2%, 61.8% of the patients were smokers, 32.5% of patients were having hyperglycemia and 41.8% of the patients were hypertensive[7].

CONCLUSION

Different risk factors in descending order are higher BMI (above 27), dyslipidemia, smoking, diabetes, and hypertension. The majority of the patients were having more than one risk factor.

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REFERENCES

1. Mendis S, Puska P, Norrving B; Global atlas on cardiovascular disease prevention and control (1st ed.)Geneva: World Health Organization in collaboration with the World Heart Federation and the World Stroke Organization. pp. 3–18.
2. Lozano R, Naghavi M, Foreman K et al. (2012). "Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010". Lancet. 380 (9859): 2095–128.
3. Finegold JA, Asaria P, Francis DP (2013). "Mortality from ischaemic heart disease by country, region, and age: statistics from World Health Organisation and United Nations". International Journal of Cardiology. 168(2): 934–45.
4. Gupta M, Singh N, Verma S. South Asians and cardiovascular risk: what clinicians should know. Circulation 2006;113:e924–9.
5. Uemura K., Pisa Z. Trends in cardiovascular disease mortality in industrialized countries since 1950. World Health Stat Q. 1988;41:155–178.
6. Ragland K.E., Selvin S., Merrill D.W. The onset of decline in ischemic heart disease mortality in the United States. Am J Epidemiol. 1988;127:516–531.
7. Nakamura T, Tsubono Y, Kameda-Takemura K,et al; Group of the Research for the Association between Host Origin and Atherosclerotic Diseases under the Preventive Measure for Work-related Diseases of the Japanese Labor Ministry. Magnitude of sustained multiple risk factors for ischemic heart disease in Japanese employees: a case-control study. Jpn Circ J. 2001 Jan;65(1):11-7.