ORIGINAL ARTICLE

Ischemic Heart Disease in Patients with Type-II Diabetes Mellitus

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ABSTRACT

Aim: To evaluate the incidence of IHD in patients with type-II diabetes mellitus.
Methods: This descriptive study was conducted in the Department of Medicine Unit-1, Bolan Medical College Hospital, Quetta from 1st July 2015 to 31st December 2015. A total of 100 patients were included in the study.
Results: There were 70 (70%) were male and 30 (30%) were female patients with mean age was 48.7±1.2 years. Among them, 17 had evidence of IHD. Moreover 5 (29.5%) patients of those who had IHD had dyspnea apart from other atypical symptoms.
Conclusion: The incidence of IHD is higher in diabetic patients as compared to non-diabetics.
Keywords: Ischemic heart disease, Atherogenesis, Diabetes mellitus.

INTRODUCTION

Heart disease, particularly coronary heart disease (CHD) is a major cause of morbidity and mortality among patients with diabetes mellitus.[1] Diabetic patients also have several hematologic, rheumatologic and metabolic abnormalities not present in the non-diabetic counterparts that may predispose them to atherosclerosis plaque rupture, intra luminal thrombosis and consequently may lead to formation of morphologically complex plaques and the development of acute coronary syndromes like unstable angina and myocardial infarction[1,2,3]. Patients with diabetes mellitus have a higher prevalence of atherosclerotic heart disease and a higher incidence of myocardial infarction than the general population. The susceptibility of the diabetic patients to atherosclerosis is due to the several factors including dyslipidemia, hypertension, hyperinsulinemia and increased platelet adhesiveness.

Diabetic dyslipidemia is characterized by raised serum VLVL, triglycerides and lowered HDL cholesterol[4]**.** Hypertension is more common in persons with diabetes being found in over 50% of diabetic patients over 45 year old. The prevalence of hypertension and nephropathy is high in diabetic women[5]. Hyperlipidemia appears to be a risk factor for atherogenesis[6]. Diabetic patients have increased platelet adhesiveness and response to aggregating agents. These changes are also likely to favor atherogenesis. The relation of asymptomatic hyperglycemia to cardiovascular risk has been addressed by various studies[7]**.**

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In various instances the symptoms may be so mild or atypical that they either go un-noticed or ignored by the patients. These should better be called unrecognized ischemia or infarction. Unrecognized infarction tends to be more common in persons with diabetes. It is reported that 42% patients have painless infarction compared with 6% non-diabetic patients[8]**.** In another study similar figures were obtained[9]**.** The incidence of painless ST depression during exercise tolerance tests in diabetic patients is more than double in non-diabetic patients[10]**.** Angina is less common in diabetics than non-diabetic patients during ischemia assessed by exercise thallium scintigraphy[11]**.** Unrecognized myocardial infarction tends to be more common in persons with diabetes as compared to general population[12]**.**

MATERIAL AND METHODS

This descriptive study was conducted in the Department of Medicine Unit-1, Bolan Medical College Hospital, Quetta from 1st July 2015 to 31st December 2015. A total of 100 patients were included in the study. Patients age 30-80 years, either gender and ischemia heart diseases were included. The data was entered in SPSS-18 and analyzed.

RESULTS

Majority of the patients belonged to 41-50 years of age. Mean age was 48.7±11.2 years (Table 1). History of disease duration was noted i.e. 1 month to 30 years (Table 2). Out of 100 patients, 70(70%) were male and 30(30%) were female. Among 100 patients, 17 had evidence of IHD. Majority of them had more than one symptom and in one patient, dyspnea was the only symptom. Five (29.5%)

patients of them who had IHD had dyspnea apart from the other atypical symptoms (Table 3).

Table 1: Age distribution (n=100)

Age (years)	n	%age
30-40	25	25.0
41-50	37	37.0
51-60	17	17.0
61-70	16	16.0
71-80	5	5.0

Table 2: Duration of illness (n=100)

Duration (years)	n	%age
<1	22	22.0
02-15	70	70.0
16-25	5	5.0
26-30	3	3.0

Table 3: Age and sex distribution of IHD patients (n=17)

Age (years)	Total	Male	Female	%
30-40	4	-	4	23.5
46-55	8	2	6	47.0
56-65	5	3	2	29.5
Total	17	5	12	100.0

DISCUSSION

There were a few patients who had atypical symptoms of IHD like dyspnea, sinking of heart, palpitations and suffocation etc. but there ECGs were normal. These patients were not considered to have IHD, though the possibility of IHD cannot be ruled out in these patients without further investigations.

Out of 17 patients had IHD, 15 (88%) had changes in their resting ECG. Nine patients had T-wave changes consistent with IHD whole 5 had pathological Q-waves. One patient had both T-wave and Q-wave. Inferior wall ischemia was found in 6 patients. Other 3 patients who had myocardial infarction, anterior wall was frequently involved as compared to inferior wall alone. One patient had inferolateral wall myocardial infarction.

Ischemia heart disease (IHD) is found with greater frequency amongst patients with diabetes mellitus as compared to non-diabetics. However, its incidence shows variations in different parts of the world. An incidence over 40% was reported from the Western countries[8]**.** In 1987-1989, 1786 cases had diabetes of which more than 82% NIDDM were analyzed. IHD was found in 14% of these patients.[13] In another study, 1000 patients of diabetes were analyzed. IHD was found 8.5% of these patients[14]**.**

In present study 6% of diabetic patients had evidence of myocardial infarction and out of these 33% had unrecognized infarction. Similarly patients with diabetes often present with atypical symptoms of IHD. In this study such patients were considered as case of IHD only if they had ECG change consistent with IHD. Thus out of all those diabetes mellitus makes females of reproductive age more likely to develop IHD as compared to their non-diabetic counterparts. In present study 12 females had IHD. Out of these 8 (66%) belonged to reproductive age group.

CONCLUSION

It is concluded from the study that the incidence of IHD is higher in diabetic patients as compared to non-diabetics.

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