Volume-5, Issue-11, November - 2016 • ISSN No 2277 - 8160 IF : 3.62 | IC Value 70.36

Original Research Paper Medicine

Cardiac Manifestations of Diabetes Mellitus

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ABSTRACT *Individuals with diabetes mellitus both NIDDM & IDDM are at increased risk for cardiovascular mortality, compared to non-diabetic subjects. Cardiac complications that occur in diabetic individuals can be grouped as,.Atherosclerotic Coronary heart disease. Non-coronary heart disease that includes Diabetic cardiomyopathy ,Sudden cardiac death (SCD) ,Cardiac Autonomic neuropathy.*

KEYWORDS : diabetes mellitus , cardiac

inclusion criteria :
I. Patients above the age of 18 years
II. Patients with Type 1 Diabetes mellitus.
III. Patients with Type 2 Diabetes mellitus

EXCLUSION CRITERIA
I. Patients with Hypertensive heart diseases
II. Patients with Corpulmonale.
III. Patients with Rheumatic heart disease and congenital heart disease.
IV. Patients with Gestational diabetes mel1itus.

THE VARIED CLINICAL MANIFESTATIONS IN THE PRESENT STUDY

PATTERN	MALE	FEMALE	TOTAL	PERCENTAGE
Angina	9	9	9	18
Myocardial infarction	10	12	22	22
Cardiac autonomic neuropathy	20	16	36	36
Congestive cardiac failure	4	5	9	9
Dilated cardiomyopathy	3	2	5	5
Sudden cardiac death	0	0	-	-

In this study forty percent of patients had evidence of Ischemic Heart Disease. 36% of patients had cardiac autonomic neuropathy. 9% of patients developed Congestive Cardiac Failure and 5%of patients had Dilated Cardiomyopathy

Among 40 patients of Ischemic Heart Disease 18 patients had Angina and 22 patients had Myocardial Infarction. Out of 18 patients of angina only 4 had typical Ischemic changes on resting ECG, rest of the 14 patients had latent Coronary Artery disease, which was detected by stress test.

SHOWING SYMPTOMS ASSOCIATED WITH ATYPICAL MANIFESTATIONS OF MYOCARDIAL INFARCTION

SYMPTOMS	Number of cases
1.CHEST PAIN	01
a)angina	-
B)atypical	01
2.EPIGASTRIC PAIN	01
3.DYSPNEA	01
a)only	-
b)with pulmonary edema	01
c)with congestive cardiac failure	-

SHOWING THE PATTERN OF MYOCARDIAL INFARCTION

PATTERN OF INFARCTION	NUMBER OF PATIENTS	PERCENTAGE
ANTERIOR OR ANTERO-LATERAL INFARCTION	13	59.09%
INFERIOR WALL INFARCTION	4	18.18%
INFERIOR WALL INFARCTION WITH RIGHT VENTRICULAR EXTENSION	2	9.09%
NON-Q WAVE MI	3	13.63%

SHOWING CARDIAC AUTONOMIC NEUROPATHY IN THIS STUDY

	MALE	FEMALE	TOTAL	PERCENT
PARASYMPATHETIC	13	10	23	63.88%
SYMPATHETIC	7	6	13	36.11%

Parasympathetic involvement was more common than sympathetic involvement

SHOWING THE SYMPTOMATOLOGY OF AUTONOMIC NEUROPATHY
The most common symptoms of Autonomic neuropathy in this study were Postural Giddiness, Impotence, and Bowel disturbances

Conclusion :
In this series of 22 patients with myocardial infarction 7 patients (31.81%) of patients presented with atypical manifestations or silent infarction which was detected during routine electrocardiographic recording.

The immediate mortality (with in one week) in this series of 22 patients was 31.2 %. Seven patients died within one week of admission. Four died within 24 hours of admission. Three died between 24 hours to one week.

Two patients out of four who died within 24 hours presented with Cardiogenic shock (systolic BP. less than 90 mm Hg) . Two patients who died between 24 hrs and 1 week had diabetic ketoacidosis and one patient developed fatal ventricular arrhythmias.

Thirteen out of 22 patients had evidence of anterior/ anterolateral infarction (59.09 %). Four patients (18.18 %) had evidence of inferior wall myocardial infarction. Two patients had evidence of inferior wall myocardial infarction with right ventricular extension. Three patients had subendocardial infarction (13.63 %).

In Cardiac autonomic neuropathy Thirty-six out of one hundred patients studied had evidence of cardiac autonomic neuropathy (36 %). The incidence of cardiac autonomic neuropathy in other series varies from 17-68 %.

In our study parasympathetic involvement was more common than sympathetic involvement

This study would have been better if angiographic studies along with Cath lab studies were done in all patients to quantify Coronary artery disease & to diagnose Diabetic Cardiomyopathy. As ECG was the criteria for the diagnosis of silent myocardial infarction, chances of missing old resolved infarctions are high

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