Abstract

***Background**:*

Diabetes mellitus is major risk factors for cardiovascular disease.DM is associated with increased risk of cardiovascular risk of death. Diabetes can lead to heart failure not only by augmenting coronary artery disease through macroangiopathy but also through structural changes involving the left ventricle (LV) causing systolic and diastolic dysfunction.

Objectives: To compare diabetic patients with ischemic cardiomyopathy to those with diabetic cardiomyopathy in terms of LV systolic function, diastolic function and short term outcome.

***Methods**:* Our study included 30 diabetic patients with heart failure admitted to critical care department over a period of 16 months (March 2016- July 2017).Patients were subjected to full history and detailed physical examination that included killip classification, laboratory investigations and echocardiographic systolic function (LVEF,GLS ,WMSI) and diastolic LV function (E/A ,É,E/É).The study population was divided into two groups based on coronary angiography data:

Group I included patients with Ischemic cardiomyopathy (ICM) n=16.
Group II patients with diabetic cardiomyopathy (DMCMP) n=14.

***Results**:* The mean age of the whole study group was 60±10 years with 6/30 females (20%) and 24 males (80%).The mean age in group I was 63±7 years and 55±11yearsin group II with a non statistically significant p value (0.038).There were 3 females respectively in each group with statistically non significant p value (0.8 55).

Patients in group I had more co morbid conditions than in group II namely HTN with a statistically significant p value (0.001), dyslipidemia with a statistically significant p value (0.000) and positive family history of IHD with a statistically non significant p value (0.282). There was no statistically significant difference between both groups regarding Killip

classification with a p value (0.586).There was no statistically significant difference between both groups regarding the duration and type of DM p value (0.732).

There was no statistically significant difference between both groups as regards to LV dimensions .The mean EDD was 6.1±0.9 cm in group I and 6.1±1.2cm in group II with a p value (0.95).The mean ESD in group I was 4.8±1 cm and 5±1 cm in group II with a p value of (0.78).

There was no statistically significant difference between the two groups as regards to global LV systolic function. The mean LVEF was 35±8% in group I and 36± 9% in group II with a p value (0.63).The mean GLS was -7.7±3% in group I and -7.4±2.9 % in group II with p value (0.77). The mean WMSI was 1.4±0.4 in group I and 1.1±0.2 in group II with a p value (0.51).

There was no statistically difference in both groups as regards to LV diastolic function. The mean E/A ratio was 1.5±0.9 in group I and 1.3±0.8 in group II with a p value (0.57).The mean É was 4.6±1.3m/s in group I and 6.1±2.7 m/s in group II with a p value (0.56).The mean was E/É 15.6±5 in group I and 13.7±8 in group II with a p value (0.43).

All patients had survived in hospital course with no documented mortality, at 6 months two patients died one in each group and at one year two patients died in group I.

Conclusion:

T he combination of cardiomyopathy and diabetes affects LV function in the form of diastolic and systolic function.

In diabetic patients with ICM advanced age had a significant effect on LV diastolic function. There were no significant differences as regards to both systolic and diastolic echocardiographic parameters between the two groups.

ICM group was associated with the worst prognosis compared to DMCMP. The worse prognosis in this group was related to heavier co morbidity burden associated with presence of significant risk factors namely hypertension and dyslipidaemia .

KEY WARDS: Ischemic Cardiomyopathy ,Diabetic cardiomyopathy ,Systolic dysfunction, Diastolic dysfunction.