

OA-D-26

TOTAL EVENTS OF HEART FAILURE WITH PRESERVED EJECTION FRACTION IN PATIENTS WITH TYPE 2 DIABETES TREATED IN INTERNAL MEDICINE CLINICS AROUND BOGOR, INDONESIA: BUITENZORG DIABETES STUDY

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INTRODUCTION

Type 2 diabetes (T2D) increases the risk of developing heart failure (HF) symptoms and HF hospitalisation. In Indonesia, ADHERE Study of HF found 31.2% had T2D and this led the patients to readmission and mortality. The high prevalence of diabetes in HFpEF identifies a systemic pro-inflammatory state induced by comorbidities as the cause of myocardial structural and functional alterations. We have no data of the occurrence of HFpEF in people with T2D in Indonesia and this study intended to provide data of T2D patients with HFpEF as an insight for a comprehensive management of diabetes and heart disease

METHODOLOGY

This study is a multi-center cross-sectional, observational study of 153 patients with T2D. We used medical records to collect data on duration of diabetes, age, BMI, glycated hemoglobin, renal function, albuminuria and echocardiography. We observed the symptoms of heart failure, anti-hypertensive medications and oral glucose lowering drugs used.

RESULTS

Out of 153 subjects with echo, 65% showed HFpEF. The patients with no symptoms but have a diastolic dysfunction and normal EF were evidently in the older group, mostly overweight or obese. 79% had glycated hemoglobin below 9%. In patients with duration of diabetes > 8 years, 36% were found to have HFpEF, among patients with duration of diabetes < 8 years with proteinuria, 43% have HfpEF.

CONCLUSION

HFpEF is often found among patients with type 2 diabetes in Bogor Indonesia mostly with diabetes duration of more than 8 years and with proteinuria.

KEY WORDS

diabetes complications, diabetes, HFpEF

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PREVALENCE AND RISK FACTORS OF MICROVASCULAR COMPLICATIONS AMONG PATIENTS WITH PREDIABETES AT A TERTIARY GOVERNMENT HOSPITAL

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INTRODUCTION

Prevalence of microvascular complications among newly diagnosed type 2 diabetes mellitus is high, which indicates that these complications namely retinopathy, nephropathy and neuropathy may be present even at mild glycemic dysregulation. Prediabetes has an increasing incidence but local studies that investigate presence of microvascular complications amongst these patients are lacking. They are an important cause of morbidity and progression may lead to blindness, development of end stage renal disease and lower extremity amputation. This study determined the prevalence of microvascular complications among patients with prediabetes seen at the outpatient department of a tertiary government hospital and looked at the association of HbA1C, BMI, LDL, HDL and smoking in the development of these complications.

METHODOLOGY

This was a descriptive cross-sectional study in which 102 patients aged 18 years old and above diagnosed to have prediabetes based on the ADA guidelines were included. 86 patients were assessed for retinopathy using fundus photo, 94 patients were screened for nephropathy with urine micral test and neuropathy was confirmed in all 102 patients using the 10g monofilament test. Descriptive statistics was used to summarize the clinical characteristics of patients. Frequency and proportion were used for nominal variables, median and range for ordinal variables. Odds ratio was calculated to determine association of HbA1C, BMI, LDL, HDL and smoking with microvascular complications.

RESULTS

A total of 102 patients with prediabetes were enrolled in the study, 46% (n=47) of which were males. The mean age was 63 years old and 77% of them were hypertensive. Mean BMI was 25 kg/m², mean FBS was 108 mg/dL and mean HbA1C was 5.97%. Prevalence of retinopathy was 4.65%, neuropathy 12.7% and nephropathy 16.6%. High HbA1C was associated with all three microvascular complications, elevated BMI (23–≥25) was associated with development of nephropathy with *p-value* 0.0060, low level of HDL was associated with retinopathy. Smoking was associated with development of nephropathy and neuropathy with *p values* of 0.0401 and 0.0263 respectively.

CONCLUSION

The study emphasizes that microvascular complications are already present even at mild glyceemic dysregulation. This is the first study, done locally, that investigated presence of microvascular complications among patients with prediabetes. We recommend screening of patients with prediabetes especially those who are obese and have a history of smoking to avoid progression to blindness, irreversible kidney damage and amputation. Furthermore, education of patients especially those who are high risk is of utmost importance to decrease the burden of these microvascular complications.

KEY WORDS

prediabetes, microvascular complications

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PREVALENCE OF MICROVASCULAR COMPLICATIONS AMONG NEWLY-DIAGNOSED TYPE 2 DIABETES MELLITUS PATIENTS IN OSPITAL NG MAKATI OUTPATIENT DEPARTMENT

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INTRODUCTION

Type 2 diabetes mellitus is an insidious illness characterized by a preclinical asymptomatic period for many years during which the body is exposed to the injurious effects of hyperglycemia resulting to microvascular and macrovascular complications. These complications have grown as a worldwide burden particularly in developing countries and majority of which result to end stage renal disease, blindness, lower extremity amputations, premature cardiovascular disease, stroke and premature mortality. This study aims to determine the prevalence of microvascular complications namely retinopathy, nephropathy and neuropathy among newly diagnosed type 2 diabetes mellitus patients in Ospital ng Makati OPD and to determine the association between baseline HbA1c levels and occurrence of microvascular complications.

METHODOLOGY

This was a cross-sectional study. Sixty patients with newly diagnosed type 2 diabetes mellitus aged 18 years and above diagnosed within the past 3 months using the ADA criteria were included. Subjects were screened for nephropathy using urine microalbumin. Neuropathy was confirmed using 10-g monofilament and pinprick testing. Funduscopy was done to screen for retinopathy. Descriptive statistics were used to summarize the clinical characteristics of the patients. Frequency and proportion were used for nominal variables, median and range for ordinal variables, and mean and SD for interval/ratio variables. Odds ratio was calculated to determine the association between baseline HbA1c levels and microvascular complications.

RESULTS

Out of the 60 patients, 27 were males and 33 were females. The mean age was 53 years. Nephropathy was present in 40%, neuropathy in 23% and retinopathy in 13% of patients. Macrovascular complications were also present in the study population. Two (3%) had coronary artery disease based on the history of prior myocardial infarction and seven (11.67%) have had cerebrovascular disease. All patients with macrovascular complications had at least one microvascular complication. Subjects were classified on the basis of HbA1c levels. Although there was insufficient evidence to demonstrate an association between HbA1c levels and microvascular complications, it was noted that these complications are frequently seen in patients whose HbA1c levels were >7%.

CONCLUSION

Macrovascular complications are a major cause of mortality and morbidity among patients with diabetes. Our study has emphasized that microvascular and even macrovascular complications are already present at the time of diagnosis of type 2 diabetes mellitus. A high prevalence of microvascular complications at the time of diagnosis necessitates that evaluation from these must be done on all patients for screening and management for possible reversibility and to delay its progression.

KEY WORDS

diabetes mellitus, microvascular complications, nephropathy, retinopathy, neuropathy