

## 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

## OA-D-27

### 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/m<sup>2</sup>, 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.