

CONCLUSION

Increases in the median HbA1c and FBS were noted among the patients; however, only the increase in FBS was statistically significant. There was also a statistically significant lesser risk of having poor glycemic control when patients adhered to medications. Efforts toward addressing different factors in contingent times like these should be made. This study can serve as an example for future contingent situations (e.g., natural disasters or war).

KEYWORDS

diabetes, COVID-19, glycemic control

PP-D-03

ANTHROPOMETRIC, BIOCHEMICAL AND IMAGING CHARACTERISTICS OF FEMALES WITH DIABETES AND FAMILIAL PARTIAL LIPODYSTROPHY

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INTRODUCTION

Familial partial lipodystrophy (FPL) is an under-recognized condition characterized by an increased genetic predisposition to abnormalities in white adipose tissue function, quantity, and distribution, leading to young-onset metabolic syndrome including type 2 diabetes mellitus (T2DM). However, in clinical practice, there are no clear criteria to diagnose FPL. This pilot study aimed to determine clinical markers using skinfold measurements, DXA, and MRI scans to identify individuals with FPL and to characterize their adipose tissue distribution and fat phenotypes.

METHODOLOGY

In 8 females with FPL and 4 BMI-matched female controls, skinfold measurements, HOMA-IR, whole genome sequencing, and DXA were performed. MRI was used to measure abdominal subcutaneous adipose tissue (SAT), visceral adipose tissue (VAT), and femoral and calf SAT and muscle volumes.

RESULTS

Both groups' median BMI were 32-33 kg/m². All eight patients in the FPL group had T2DM with median disease onset at age 31 years. FPL, when compared to controls, had higher levels of HOMA-IR ($p = 0.028$), reduced thigh skinfold thickness (20.4 mm vs 51.4 mm, $p = 0.008$) with a correspondingly increased subscapular-to-thigh skinfold ratio ($p = 0.004$), and iliac-to-thigh skinfold ratio ($p = 0.004$). The FPL group had a reduced leg fat percentage (34.6 vs 48.1, $p = 0.004$) with an increased ratio of trunk-to-legs fat percentage (1.36 vs 0.98, $p = 0.004$), and android to gynoid ratio (1.21 vs 0.98, $p = 0.008$). The FPL group had decreased SAT volume in the femoral and calf.

KEYWORDS

lipodystrophy, severe insulin resistance, MRI, diabetes, obesity

PP-D-04

THE ABC TARGETS AND USE OF ORGAN-PROTECTIVE MEDICATIONS AMONG THAI PEOPLE WITH YOUNG-ONSET TYPE 2 DIABETES

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INTRODUCTION

Young-onset Type 2 Diabetes (YOD) is associated with premature death and worse microvascular and cardiovascular outcomes. Our recent study which recruited all individuals with the onset of DM before 30 years revealed that YOD had a three times higher prevalence of diabetic kidney disease (DKD) than young-onset T1D despite similar disease duration, glycemic control, and age. This study aimed to evaluate the rate of RAAS blockade (ACEi or ARB), SGLT2i, GLP-1 RA, and statin use among YOD. The proportion of patients who attained various multiple treatment targets was also evaluated.

METHODOLOGY

Data from all participants with T2D enrolled between 2022-2023 into the Thai Type 1 Diabetes and Diabetes Diagnosed Before Age 30 Years Registry, Care and Network (T1DDAR CN) from Theptarin Hospital, a tertiary diabetes center in Bangkok, were analyzed. The various ABC targets defined as standard targets (A1C <7.0%, BP <140/90 mmHg, and LDL <100 mg/dL), ADA-recommended targets (A1C <7.0%, BP <130/80 mmHg, and LDL <100 mg/dL) and tight targets (A1C ≤6.5%, BP <130/80 mmHg, and LDL <70 mg/dL) were examined.

RESULTS

A total of 50 patients (42.0% were females, current age of 46.6±12.4 years, age at DM diagnosis of 24.4 ± 5.2 years, duration of diabetes of 23.1 ± 11.2 years, BMI of 28.4±5.5 kg/m², prevalence of hypertension of 48.0%, insulin usage in 54.0%, and A1C of 7.5 ± 1.7%) were included. Statin medications were prescribed in 86.0%, RAAS inhibitors in 42.0%, SGLT2i in 32.0%, and GLP-1 RA in 28.0% of all patients. Among the DKD patients (N = 24), the rate of RAAS blockade was 66.7% and SGLT2i was 45.8%. The glycemic targets at ≤6.5% and <7.0% were achieved in 20.8% and 25.0%, respectively. The standard ABC targets, ADA-recommended targets, and tight targets were achieved in only 20.0%, 14.0%, and 6.0%, respectively.

CONCLUSION

Our routine clinical practice among diabetologists showed that achievement of treatment targets and use of organ-protective medications remain considerably suboptimal in individuals with YOD. Efforts to evaluate and improve the quality of care of these patients should be done to ensure the provision of adequate organ-protective medications.

KEYWORDS

type 2 diabetes, ABC targets, organ-protective medications

PP-D-05

REAL-WORLD EVIDENCE FOR THE USE OF SGLT2 INHIBITORS IN PATIENTS WITH TYPE 2 DIABETES AT A MALAYSIAN TERTIARY CARE CENTRE

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INTRODUCTION

Randomised controlled trials show that SGLT2 inhibitors provide metabolic benefits, and cardiovascular and renal protection in patients with Type 2 Diabetes Mellitus (T2DM). Little is known in terms of real-world evidence for the use and persistence, metabolic benefits, durability in glucose control and adverse events related to SGLT2 inhibitors, particularly in South East Asia. The aim was to determine the metabolic, renal and cardiovascular outcomes and adverse events amongst T2DM patients commenced on SGLT2 inhibitors.

METHODOLOGY

We retrospectively analysed the demographics, clinical characteristics, metabolic, renal and cardiovascular outcomes, as well as adverse events, of patients commenced on SGLT2 inhibitors. Data were extracted from electronic medical records in a tertiary care hospital and followed up for 24 months.

RESULTS

A total of 504 participants were analysed (male: 53.1%, mean age: 68.2 ± 7.1 years). The participants had a baseline HbA1c of 8.5%, 46.5% were insulin users, 49% with established ASCVD and 19.8% with CKD stage 3 and above. The SGLT2 inhibitors used were empagliflozin (81.4%) and dapagliflozin (18.6%). A significant reduction was seen in all metabolic parameters from baseline to 24 months: HbA1c: 0.6 ± 1.8% ($p < 0.001$), fasting plasma glucose (FPG): 0.7 ± 3.9 mmol/l ($p < 0.001$), weight: 2.6 ± 6.5 kg ($p < 0.001$), systolic blood pressure (SBP): 3.8 ± 20.6 mmHg ($p = 0.001$) and low-density lipoprotein (LDL): 0.25 ± 1.29 mmol/l ($p < 0.001$). The eGFR declined by 2.8 ± 10.6 ml/min/1.73 m² from baseline ($p < 0.001$) and the urine albumin-creatinine ratio (UACR) showed no significant change of 4.4 ± 73.5 mg/mmol ($p = 0.996$) over 24 months. There was no difference in terms of metabolic or renal outcomes amongst those with and without atherosclerotic cardiovascular disease (ASCVD) except those without ASCVD had greater weight loss compared to those without (3.1 vs 0.6 kg, $p = 0.04$). We reported eighteen cardiovascular (CV) events of the acute coronary syndrome and nine events of hospitalisation for heart failure. Fifteen participants discontinued therapy due to adverse events and the causes were: genitourinary infections (0.8%), excessive polyuria (0.8%), and worsening eGFR of more than 40% from baseline (0.8%) were among the commonest. We observed only two events of diabetic ketoacidosis. Our findings were similar to other real-world studies done in other parts of the world.

CONCLUSION

In this real-world study, SGLT2 inhibitors effectively improved HbA1c, FPG, weight, SBP and LDL amongst multi-ethnic Malaysians with T2DM, similar to the magnitude reported in randomised clinical trials. Adverse events reported were lower than observed in randomised trials. This data compliments the current available literature on the efficacy and safety of SGLT2 inhibitors.

KEYWORDS

SGLT2-inhibitors, T2DM, HbA1c, weight, real world evidence