

study consisting of type 2 diabetes with cardiovascular disease outcome, type 2 diabetes without cardiovascular complications and healthy control group was conducted in 221 participants. We employed a machine learning algorithm to develop a cardiovascular risk prediction model.

## RESULTS

A combination of sociodemographic, anthropometry and routine biochemical data was assessed using ensemble classifier as the base model for predicting cardiovascular risk (84.8% accuracy, 76.5% positive predictive value in high-risk). The predictive ability was improved when serum ferritin, vitamin D and NT-proBNP (89.4% accuracy, 83.3% positive predictive value in high-risk) were added to the model.

## CONCLUSION

As cardiometabolic biomarkers may potentially improve cardiovascular prediction, further analysis can be performed to validate their clinical utility in diverse type 2 diabetes individuals.

## EP\_A031

### UNVEILING A RARE PRESENTATION: LARGE RENAL ABSCESS IN A TEENAGER WITH NEWLY DIAGNOSED DIABETES

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#### INTRODUCTION/BACKGROUND

Type 2 diabetes mellitus (T2D), once considered a predominantly adult-onset disease, has witnessed a concerning surge in prevalence among adolescents worldwide emerging as a significant public health challenge. Studies have suggested that young-onset T2D might represent with more severe and rapidly progressive disorder than adults. We illuminate the clinical journey of a teenage patient who presented with a renal abscess as a rare complication concurrent with the diagnosis of diabetes.

#### CASE

A 13-year-old Indian female, with no known medical illness, presented with fever and osmotic symptoms for 1 month. Otherwise, she had no other infective symptoms. Upon presentation, she was hemodynamically stable and systemic examinations were unremarkable. Her BMI

was 20 kg/m<sup>2</sup>, with weight of 45 kg and height of 150 cm. She had acanthosis nigricans, capillary blood sugar of 13.2 mmol/L, serum ketone of 0.4 mmol/L, and no metabolic acidosis. Her investigations showed total white cells of 18.2x10<sup>3</sup>/uL, c-reactive protein 146.9 mg/L and HbA1c 13.1%. Because of persistent fever, an ultrasound of the abdomen was done which revealed a right upper pole renal nephronia (3.1 x 2.5 x 1.8 cm) and a large left lower pole renal abscess (5.4 x 8.5 x 10.1 cm). The renal abscess was removed with pigtail drainage and the abscess culture & sensitivity grew Klebsiella pneumonia, sensitive to amoxicillin-clavulanate. After 6 weeks of adequate antibiotics and intensive insulin therapy, repeated imaging showed a resolved renal abscess. Her pancreatic auto-antibodies panel was positive for anti-Islet cell [42.9 IU/ml, (reference range <28)], and negative for anti-IA2 and anti-GAD. Distinguishing between the types of diabetes can be challenging in this age group. As she had clinical features of insulin resistance, high c-peptide level (1764 pmol/L) and parental history of T2D, she was diagnosed as young T2D with positive pancreatic autoantibody. During subsequent follow-up, her glycaemic treatment was de-intensified to basal insulin and metformin. In addition to dietary and lifestyle modification, her HbA1c improved to 6.0% with good glycaemic control.

## CONCLUSION

There is an increasing prevalence of T2D in adolescents. However, renal abscess remains a rare presentation in teenagers with newly diagnosed diabetes. Successful management involved timely diagnosis, implementation of imaging, source control, adequate antibiotics and optimal glycaemic control.

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### DIABETES CONTROL AMONG ELDERLY DIABETIC PATIENTS IN KUANTAN, MALAYSIA

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#### INTRODUCTION/BACKGROUND

The transformation of the aging population in Malaysia carries a significant healthcare burden in chronic diseases like Type 2 Diabetes Mellitus (T2D).

**METHODOLOGY**

This study aims to measure the patients' diabetes control and to identify its related factors among elderly diabetic patients in Kuantan. This cross-sectional study was conducted in six selected government health clinics in Kuantan (chosen from stratified random sampling) where 300 elderly patients with T2D were recruited via proportionate random sampling. The related factors studied were sociodemographic profile, health and treatment characteristics and quality of life using the RV-DQOL13 questionnaire. The data were analysed using SPSS version 26.

**RESULTS**

The mean age of the patients was 68.1 years old (SD=6.009). Most patients were female (57.3%), Malay (70.3%), married (66%), living independently (Modified Barthel Index = 99%) and from B40 (96.3%). The prevalence of good diabetes control was 59.3% (cut-off point = HbA1c  $\leq$  7.5%). The significant predictors for good diabetes control identified were non-Malay (aOR = 3.92, 95%CI 1.907-8.060,  $p < 0.001$ ), treatment with insulin injection (aOR = 0.193, 95%CI 0.094-0.395,  $p < 0.001$ ), abnormal capillary blood glucose (CBG) (aOR = 0.655, 95%CI 0.489-0.878,  $p < 0.001$ ), having higher LDL-C (aOR = 0.655, 95%CI 0.489-0.878,  $p = 0.005$ ), and poor satisfactory impact from RV-DQOL13 (aOR = 0.919, 95%CI 0.884-0.954,  $p < 0.001$ ).

**CONCLUSION**

Elderly diabetic patients in Kuantan have good diabetes control. However, follow-up for this group needs to be emphasized among Malay patients, those on insulin treatment, poor CBG during TCA, high LDL-C and those who are unsatisfied with diabetes care to maintain good diabetes control prevalence.

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**PREVALENCE OF DIABETES DISTRESS AMONG PATIENTS IN AN OUTPATIENT ENDOCRINE CLINIC IN A TERTIARY HOSPITAL: A CROSS-SECTIONAL STUDY**

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**INTRODUCTION**

Diabetes distress (DD) among diabetes mellitus patients is becoming a major challenge for healthcare providers. Studies have shown that patients with diabetes distress tend to have poorer glycaemic control. The Diabetes Distress Scale

is a validated tool featuring 3 major domains: emotional burden (EB), physician distress (PD) and therapeutic support distress (TSD). Our study aimed to investigate the prevalence of diabetes distress among our patients and to identify risk factors associated with this condition.

**METHODOLOGY**

This is a cross-sectional study involving type 1 and type 2 diabetes patients seen in the HRPB Endocrine Clinic from February-March 2024. Patients who fulfilled the inclusion criteria (n=91) answered the validated Malay version diabetes distress scale questionnaire (MDDS-17). The Total mean score (TS) and the mean score of the 3 domains were analysed using univariate analyses via SPSS. A mean item score  $> 3.0$  denotes significant diabetes distress.

**RESULT**

Median TS is 1.94 (1.59-2.47). 16.5% of the patients had a TS score  $\geq 3$ . Significant scores in the other domains were: 27.5% for EB, 12.1% for PD and 17.6% for TSD. Those with HbA1c  $> 8.5\%$  had higher median TS scores versus those with HbA1c  $< 6.5\%$  and 6.6-8.4% (2.24 vs 1.71,  $p = 0.028$ ; 2.24 vs 1.82,  $p = 0.023$ ) respectively. Patients with HbA1c  $> 8.5\%$  also had higher median TSD scores versus those with HbA1c  $< 6.5\%$  and HbA1c 6.6-8.4% (2.5 vs 1.9,  $p = 0.03$ , 2.5 vs 2.06,  $p = 0.041$ ), respectively. Patients aged between 12-29 had lower median PD scores versus those aged 30-49 and 50-69 (1 vs 1.5,  $p = < 0.001$ , 1 vs 1.5,  $p = 0.009$ ), respectively. Patients with retinopathy had higher median PD scores versus those without (1.63 vs 1.0,  $p = 0.015$ ). There were no significant differences in scores for gender, ethnicity, type of DM, duration of disease, socioeconomic status and other DM complications.

**CONCLUSION**

The prevalence of diabetes distress is 16.5%. Patients with poor glycaemic control, the middle-aged group and those with retinopathy had significantly higher diabetes distress scores. Efforts should be made to identify these groups of patients for timely intervention.