RESULTS

The cohort comprised 45 patients, with a mean age and disease duration of 53.3 and 16.3 years, respectively. Baseline mean weight was 100.3 kg, and body mass index (BMI) was 36.8 kg/m², with 88% in the obese BMI category. Baseline HbA1c was 7.9%, and HbA1c reduction was 0.74% at 6 months and 0.84% at 12 months. The proportions of patients achieving HbA1c reduction of <0.5, 0.5–<1.0, 1.0–<2.0, and ≥2.0% were 8.9, 26.7, 26.7, and 8.9%, respectively. The mean weight reduction from baseline was 4.93 kg at 6 months and 6.73 kg at 12 months. Concomitant insulin therapy was observed in 44%, with 31% reduction in total daily insulin requirement at the end of the study, along with simplification of insulin regimens.

CONCLUSION

Combination therapy with Sema-OW improved glycemic control with weight loss and enabled treatment deintensification in people with T2DM in Malaysian public tertiary diabetes care.

EP_A037

IMPACT OF GLYCEMIC BURDEN ON RENAL FILTRATION DECLINE AND PROTEINURIA IN TYPE 1 DIABETES MELLITUS

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INTRODUCTION

Diabetic nephropathy is a major complication of type 1 diabetes mellitus (T1DM) and a leading cause of end-stage renal disease. This study aims to correlate long-term glycemic control and disease duration with renal decline, measured via estimated glomerular filtration rate (eGFR) and urinalysis proteinuria.

METHODOLOGY

A retrospective cohort study was conducted among 15 patients with T1DM at Hospital Bentong. Independent variables were 3-year mean glycated hemoglobin A1c (HbA1c) and duration of diabetes. Dependent variables included the change in eGFR derived from baseline and latest serum creatinine (calculated using the CKD-EPI 2021 equation), and the shift in urine protein severity, mapped to an ordinal scale, over a 3-year follow-up. Multivariate linear regression and Spearman's rank correlation were utilized for analysis.

RESULTS

The cohort consisted of 5 male patients and 10 female patients with a mean initial presentation HbA1c of 11.4%, a mean 3-year HbA1c of 9.15%, and a median disease duration of 11 years. Baseline eGFR was preserved (mean 117.15 mL/min/1.73 m²). Regression analysis revealed that for every 1% increase in mean HbA1c, eGFR declined significantly by 9.6 mL/min/1.73 m² (p = 0.002). Furthermore, each additional year of disease duration independently reduced eGFR by 1.1 units (p = 0.008). Spearman validation confirmed the strong negative correlation between HbA1c and eGFR (Rho = -0.664, p = 0.006). Conversely, the correlation between 3-year mean HbA1c and worsening proteinuria was not statistically significant (Rho = -0.067, p = 0.827), and patient gender did not significantly impact progression (p = 0.129).

CONCLUSION

Poor long-term glycemic control and longer duration of diabetes mellitus are strong independent predictors of decline in functional glomerular filtration in T1DM. While worsening proteinuria may not be detected during a short 3-year window using a standard urinalysis (UFEME), a more sensitive test such as Urine Albumin-to-Creatinine Ratio may better detect early structural kidney damage.

EP_A038

CLINICAL AND BIOCHEMICAL CHARACTERISTICS OF ADULT DIABETIC KETOACIDOSIS: T1DM VS T2DM

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INTRODUCTION

The rising incidence of diabetic ketoacidosis (DKA) in type 2 diabetes mellitus (T2DM) represents a paradigm shift from its traditional recognition as a hallmark complication of type 1 diabetes mellitus (T1DM). However, contemporary data comparing clinical presentation, precipitating factors, and outcomes between these two populations remain limited.

METHODOLOGY

In this retrospective observational study, all adult DKA admissions with T1DM or T2DM at a tertiary centre between 2001 and 2025 were studied. DKA was defined according to standard biochemical criteria. Electronic medical records

were reviewed to extract demographic data, biochemical parameters, precipitating factors, management details, and clinical outcomes of all adult DKA admission in T1DM and T2DM. Patients aged <18 years or those with incomplete data were excluded.

RESULTS

A total of 601 DKA episodes were analyzed, comprising 130 (21.6%) in patients with T1DM and 471 (78.4%) in those with T2DM. Mean age was 26.9 ± 0.71 years for T1DM and 52.1 ± 0.7 years for T2DM. Gender distribution was balanced (male 48.3%, female 51.7%). Mean hemoglobin A1c (HbA1c) was 11.3 ± 0.3% in T1DM and 12.1 ± 0.2% in T2DM. Infection was the most common precipitating factor overall (69.0%), occurring more frequently in T2DM than in T1DM (74.7% vs. 56.2%), followed by medication non-adherence (62.4% vs. 43.8%). Significant differences were observed between groups in admission pH, bicarbonate (both p <0.001), blood ketones (p = 0.028), and HbA1c (p = 0.010), whereas anion gap (p = 0.056) and blood glucose levels (p = 0.755) did not differ significantly. Clinical outcomes were comparable with respect to intensive care unit (ICU) admission rates (40.0% in T1DM vs. 39.0% in T2DM, p = 0.779) and median resolution time (p = 0.462). However, the median length of hospital stay was significantly longer in T2DM (8.2 ± 0.32 vs. 5.4 ± 0.4 days; p <0.001). Overall mortality was 6.0%, with substantially higher mortality in T2DM compared to T1DM (7.4% vs. 0.8%, p = 0.013).

CONCLUSION

In this large regional series of adult DKA, most episodes occurred in T2DM. Despite similar ICU admission rates and time to resolution, T2DM was associated with more frequent infection-related precipitants, longer hospital stays, and higher mortality, underscoring the need for targeted preventive strategies in this population.

EP_A039

HIDDEN BURDEN OF DIABETES RISK AMONG HEALTHCARE WORKERS IN A TERTIARY HOSPITAL

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INTRODUCTION

The increasing prevalence of diabetes represents a significant global health challenge. Modifiable risk factors, including physical inactivity, unhealthy dietary habits, and obesity contribute substantially to this rising burden. In conjunction with the 2025 World Diabetes Day (WDD) campaign focusing on "diabetes and the workplace," we assessed diabetes risk among healthcare workers in our hospital using the Modified Asian Finnish Diabetes Risk Score (ModAsian FINDRISC).

METHODOLOGY

Healthcare workers from various departments were invited to participate in the hospital WDD celebration. A total of 286 attendees underwent anthropometric measurements and completed the ModAsian FINDSRIC questionnaire. Descriptive statistics were used to summarize the prevalence of risk factors and overall diabetes risk.

RESULTS

The participants included doctors, nurses, allied healthcare professionals, as well as hospital support and administrative staff. The majority of participants (74.8%) were aged below 45 years. 39.2% were overweight while 30.8% were obese. One-third (37.4%) had increased waist circumference (WC) (≥90 cm for men, ≥80 cm for women). Additionally, 20% of respondents reported being on antihypertensive medication, and 23.8% had previously recorded high blood glucose. A family history of diabetes mellitus (DM) was reported by 62.6% of respondents. Additionally, about one-third were sedentary with less than 30 minutes of daily exercise or physical activity, another one-third did not consume fruits or vegetables on a daily basis. The median ModAsian FINDRISC score was 8, with approximately 30% of them classified as having moderate to very high risk of developing DM (moderate: 17.5%; high: 10.8%; very high: 2.8%).

CONCLUSION

These results revealed high metabolic risk in healthcare workers and highlight the need for targeted workplace health promotion strategies to reduce the risk of developing diabetes.