losis (TB) infection exacerbates systemic severity and increases hazard rates for death. This study aims to quantify the association between baseline hemoglobin A1c (HbA1c) levels and all-cause mortality within a Malaysian cohort.

METHODOLOGY

This was a retrospective cross-sectional audit analyzing 131 adult TB-DM (diabetes mellitus) patients during their treatment course (2022–2025) in the TB Clinic, Hospital Sungai Buloh. Primary outcomes were all-cause mortality and clinical severity, stratified by baseline HbA1c and diabetes mellitus DM treatment modality (OHA vs. insulin).

RESULTS

The overall mortality rate was 17% (22/131). A stark disparity in glycemic control was observed between survivors and deceased patients: those who died presented with extreme mean HbA1c levels of 16.0%, compared to 10.5% in survivors. High HbA1c was also associated with a higher prevalence of pulmonary involvement compared to extrapulmonary disease (10.9% vs 8.9%). Patients requiring insulin therapy experienced significantly higher mortality rates compared to those managed on OHAs, with 25% (12 out of 47) patients requiring insulin therapy having died during TB treatment, compared to only 8.2% (7 out of 84) patients in the OHA-only group.

CONCLUSION

Baseline HbA1c is a critical prognostic marker that identifies a high-risk "lethal threshold" at extreme glycemic levels (HbA1c ≥16). Furthermore, the nearly fourfold increase in death risk among insulin-treated patients likely reflects a high-risk phenotype of advanced metabolic failure, which corresponds with a study done in Kelantan (Siti Rohana et al., 2020). The study shows that TB patients with DM had three times higher risk of developing unsuccessful TB treatment outcomes compared to TB patients without DM. Collectively, these data necessitate mandatory early HbA1c screening and aggressive metabolic management to reduce the staggering mortality of this dual epidemic.

EP_A034

IMPACT OF GLYCEMIC CONTROL ON TUBERCULOSIS TREATMENT OUTCOMES IN PATIENTS WITH DIABETES MELLITUS: A RETROSPECTIVE AUDIT

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INTRODUCTION

Diabetes mellitus (DM) is a significant comorbidity associated with adverse tuberculosis (TB) treatment outcomes and remains an ongoing clinical challenge. Chronic hyperglycemia impairs host immune responses, particularly macrophage function, leading to delayed bacillary clearance. This contributes to poorer outcomes, including delayed sputum conversion, prolonged treatment duration, relapse, and increased mortality. Poor glycemic control is a key modifiable factor influencing these outcomes. This study aimed to evaluate the impact of glycemic control at diagnosis on TB treatment outcomes in a Malaysian cohort.

METHODOLOGY

A retrospective cross-sectional audit was conducted using the TB clinic registry at Hospital Sungai Buloh from 2022 to 2025. Adult patients (≥18 years) with confirmed TB (any form) and DM (Type 1 or Type 2) with complete records were included. Of 241 patients screened, 131 were included after exclusions due to incomplete records (29.9%), transfer (29.9%), loss to follow-up (19.9%), and drug-resistant TB (2.9%). Data collected included demographics, hemoglobin A1c (HbA1c) at diagnosis, sputum conversion duration, treatment duration, type of DM therapy, and clinical outcomes.

RESULTS

The cohort had a mean age of 53 years, with 97% having Type 2 DM.

Mean HbA1c at diagnosis was 10.5%. Poorer glycemic control was associated with delayed sputum conversion. Patients who achieved sputum conversion by 8 weeks had an average HbA1c of 9.6%, compared to 11.8% in those with delayed conversion. Longer treatment duration was associated with higher HbA1c (mean 10.5, 8.6, and 11.8% for 6-, 12-, and 18-month regimens, respectively). Relapse analysis demonstrated a trend towards higher HbA1c with increasing relapse episodes (11.2, 13.75, and 14.5% for one,

two, and three relapses, respectively). Overall mortality was 17% (22/131), with markedly higher mean HbA1c in deceased patients compared to survivors (16.0% vs 10.5%).

CONCLUSION

Poor glycemic control at TB diagnosis is associated with delayed sputum conversion, prolonged treatment duration, and increased mortality. These findings are consistent with regional evidence, including a South Asian systematic review (Gautam et al., 2021), demonstrating higher mortality and treatment failure in patients with TB and DM. Early and aggressive optimization of glycemic control, alongside standard anti-TB therapy, is essential to improve outcomes.

EP_A035

RISK STRATIFICATION AND REFERRAL PATTERNS FOR METABOLIC LIVER DISEASE IN TYPE 2 DIABETES: REAL-WORLD FIB-4 UTILIZATION

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INTRODUCTION

Metabolic dysfunction–associated steatotic liver disease (MASLD) is common among patients with type 2 diabetes (T2D) and increases the risk of cirrhosis, yet fibrosis often remains clinically silent until hepatic decompensation occurs. Current diabetes guidelines recommend non-invasive fibrosis risk stratification, such as the fibrosis-4 index (FIB-4), during routine diabetes care, but real-world adoption remains unclear. This study aimed to evaluate the implementation of FIB-4 as a risk stratification tool in patients with T2D.

METHODOLOGY

This was a retrospective study of consecutive patients with T2D who were seen in the Diabetes Clinic of University of Malaya Medical Centre in 2023. Patients were identified as having a higher risk of future cirrhosis based on elevated FIB-4 ≥1.3.

RESULTS

The data for 1,009 patients were analyzed, median age 62 (52–71) years, 40.7% male. Elevated FIB-4 was seen in 28.8% (291/1,009). Only 12.0% (35/291) with elevated FIB-4 were referred for further hepatology evaluation, whereas 3.3% (24/718) with low FIB-4 were referred. Among the patients with elevated FIB-4, those referred were more likely known to have hepatic steatosis, had higher alanine aminotransferase, aspartate aminotransferase, gamma-glutamyl transferase, and lower low-density lipoprotein cholesterol and platelet count. Over a median follow-up of 1.71 (0.99–1.95) years, totaling 1,440 person-years, two liver-related events (0.2%) occurred (one each in the elevated and low FIB-4 group, respectively). Sixteen patients (4.0%) experienced cardiovascular events, including one patient (0.6%) in the elevated FIB-4 group and 15 (2.9%) in the low FIB-4 group.

CONCLUSION

Despite automated FIB-4 reporting, this risk stratification tool was underutilized in T2D, resulting in missed opportunities for early identification and management of more severe liver disease. Integration of FIB-4 into diabetes care workflows, alongside structured referral pathways and clinician education, may improve early detection and reduce long-term hepatic complications in T2D.

EP_A036

REAL-WORLD CLINICAL EXPERIENCE OF SUBCUTANEOUS SEMAGLUTIDE IN PUBLIC HOSPITAL-BASED DIABETES CARE: A RETROSPECTIVE OBSERVATIONAL STUDY

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INTRODUCTION

Subcutaneous once-weekly semaglutide (Sema-OW) (0.5, 1.0 mg) has been available in Malaysia since 2020, but is currently not listed in the MOH Medicines Formulary. MOH clinicians prescribe Sema-OW for limited patient numbers, on a "named patient basis" following a closely regulated application process, permitting use once multilevel approval is obtained. Our study aims to report on the glycemic and weight-lowering outcomes of Sema-OW in a real-world MOH clinical setting.

METHODOLOGY

A retrospective, single-arm, observational study was conducted in Hospital Putrajaya and Hospital Kuala Lumpur. The study population comprised adults with type 2 diabetes mellitus (T2DM) treated with Sema-OW for at least 6 months with hemoglobin A1c (HbA1c) and weight parameters available in their medical records. The primary endpoint was HbA1c change at 6 months. The secondary endpoints were the changes in HbA1c and weight from baseline to 12 months, proportion of patients achieving HbA1c <7%, and different levels of HbA1c reduction in 6 and 12 months (<0.5, 0.5–<1.0, 1–<2, ≥2%). Changes in concomitant glucose-lowering medications were additionally observed.