EP_A053

BALANCING HORMONAL CHAOS: A CASE REPORT ON TYPE 1 DIABETES MELLITUS AND LACTATION-INDUCED HYPOGLYCEMIA

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INTRODUCTION/BACKGROUND
Type 1 Diabetes Mellitus (T1DM) accounts for 0.6% of diagnosed diabetes cases in Malaysia, presenting unique challenges for young adults of childbearing age. Women with T1DM encounter numerous hurdles not only before and during pregnancy but also in the postpartum period. Here, we present a case study of a young patient with T1DM who experienced recurrent hypoglycaemia during lactation.

CASE
A 31-year-old mother of two was diagnosed with T1DM at the age of 15 and was managed with multiple daily insulin (MDI) injections. Prior to her second pregnancy, her HbA1c was 6.1%. During her second pregnancy, she was on prandial insulin aspart six units and glargine 18 units. The patient's insulin requirement was further reduced immediately postpartum. Despite these adjustments, she encountered frequent hypoglycaemic episodes, particularly during breastfeeding. During her clinic visits, she was advised to take small snacks before nursing and to use a continuous glucose monitor (CGM). However, at four months postpartum, she presented with facial nerve palsy and was admitted for transient ischemic attack (TIA) due to severe hypoglycaemia. She initiated a sensor-augmented insulin pump trial at 16 months postpartum, which resulted in the cessation of hypoglycaemic episodes and subsequently, better glycaemic control.

CONCLUSION
Several factors contribute to lactation-induced hypoglycaemia in women with T1DM, including hormonal and physiological changes. Increased energy demand for milk production, elevated oxytocin and prolactin levels that enhance insulin sensitivity, and unpredictable timing and duration of breastfeeding sessions can all exacerbate hypoglycaemia. This case highlights the challenges of managing T1DM during lactation, specifically the increased risk of hypoglycaemia due to the energy demands of breastfeeding. Personalized treatment plans, in collaboration with endocrinologists, and the expanded utilization of CGM and insulin pumps can significantly enhance glycaemic control and minimise the risk of hypoglycaemia in breastfeeding mothers with T1DM.

EP_A054

FAMILIAL HYPERTRIGLYCERIDEMIA MANIFESTING RECURRENT PANCREATITIS, ERUPTIVE XANTHOMAS, LIPEMIA RETINALIS IN A YOUNG FEMALE WITH TYPE 1 DIABETES MELLITUS AND PRIMARY OVARIAN FAILURE

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INTRODUCTION/BACKGROUND
Severe hypertriglyceridemia is one of the etiologies of pancreatitis and is associated with diabetes mellitus.

CASE
We present a case of a 22-year-old female with DM diagnosed at 17 years old with presentation of osmotic symptoms. On examination, she was normotensive with a BMI of 23 kg/m^2, no features of Cushing syndrome but with sexual immaturity (Tanner stage 1). Baseline laboratory showed HBAIC of 10%, elevated AST 132 U/L, ALT 138 U/L, triglyceride (TG) 16.62 mmol/L, LDL 0.3 mmol/L, HDL 0.8 mmol/L, macroalbuminuria, normal renal profile, thyroid function test and cortisol level. Serum FSH of 24.2 IU/L, LH of 8.02 IU/L and estrogen levels of 71.1 pmol/L confirmed primary ovarian failure and karyotyping excluded Turner's syndrome. Ultrasound of the abdomen showed a fatty liver, a small uterus and ovaries. Initial treatment included an oral hyperglycaemic agent, basal insulin, fenofibrate and statin.

On subsequent follow-up, diabetes control remains poor, with HbA1c persistently above 10%, requiring intensification with basal-bolus insulin. Fundoscopy showed bilateral lipemia retinalis but no retinopathy. She developed acute pancreatitis two years after diagnosis of DM, and imaging confirmed pancreatitis without calculi. Lipid levels were not available due to lipemic samples. She later noted xanthomas over her extremities and presented again with severe pancreatitis and uncontrolled diabetes. Markedly elevated triglyceride level at 59.73 mmol/L reduced to 5.49 mmol/L with continuous insulin infusion. Omega-3 oil tablets were added, and an outpatient review showed improved HbA1c levels from 12.3% to 10.4% and triglyceride of 5.36 mmol/L. DM autoantibodies confirmed autoimmune diabetes.

CONCLUSION

This patient illustrates a unique case of a likely familial hypertriglyceridemia co-existent with poorly controlled type 1 diabetes mellitus that presented with recurrent pancreatitis, eruptive xanthomas and lipemia retinalis, which can be controlled with appropriate treatment.

EP_A055

ASSESSING CLINICAL OUTCOMES OF SGLT2 INHIBITOR THERAPY IN ELDERLY HFrEF PATIENTS WITH AND WITHOUT DIABETES: A SINGLE-CENTRE STUDY

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INTRODUCTION/BACKGROUND

Heart failure with reduced ejection fraction (HFrEF) is a complex syndrome resulting in decreased ventricular function, leading to symptomatic left ventricle dysfunction and global cardiovascular morbidity and mortality. Type 2 Diabetes Mellitus (T2DM) escalates cardiovascular risk, necessitating tight glucose control. Sodium-glucose cotransporter 2 inhibitors (SGLT2i) promise to improve cardiovascular outcomes and diabetes therapy.

METHODOLOGY

This study aimed to assess the efficacy and safety profile of SGLT2i in elderly HFrEF patients, both with and without T2DM. In this retrospective observational study, we examined patients on SGLT2i aged 65 and older with an ejection fraction (EF) of ≤40% from our cardiology clinic. Patient medical records from 2018–2023 provided data for analysis, including demographics, comorbidities, changes in EF, New York Heart Association (NYHA) shifts, estimated glomerular filtration rate (eGFR) reduction, hospitalisation and mortality among patients with and without T2DM.

RESULTS

From 934 SGLT2 inhibitor-treated patients, our study focused on 167 elderly HFrEF patients, divided into T2DM (125 patients) and non-T2DM (42 patients). Both groups had similar demographics. Significantly, 80.6% of T2DM patients had hypertension, compared to 37.2% of non-T2DM patients (P <0.001). Both groups had improved EF (54% vs. 51.2%, P = 0.859). Guideline-Directed Medical Therapy (GDMT) showed a moderate association with observed outcomes, with no significant differences in EF or NYHA improvement between T2DM and non-T2DM patients (P = 0.859, P = 0.137, respectively). In T2DM patients, cardiovascular events, total hospitalisation, and mortality were greater but not statistically significant (P = 0.38, P = 0.128, and P = 0.113, respectively). Notably, patients without T2DM exhibited a more pronounced reduction in eGFR (P = 0.018).

CONCLUSION

SGLT2 inhibitors improved EF and NYHA classification in elderly patients with HFrEF, regardless of T2DM status. On the other hand, the presence of both T2DM and chronic kidney disease (CKD) emerged as significant risk factors associated with higher rates of hospitalisation and mortality.

EP_A056

METABOLIC BENEFITS OF ADDING SODIUM GLUCOSE CO-TRANSPORTER-2 INHIBITORS IN REAL-WORLD SETTINGS, A TERTIARY CENTRE EXPERIENCE

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INTRODUCTION/BACKGROUND

Sodium-glucose co-transporter-2 inhibitors (SGLT2i) have revolutionized the landscape of type 2 diabetes (T2D). Ministry of Health facilities in Malaysia manage approximately 1.6 million individuals with diabetes. Due to the high risk for cardiovascular disease, SGLT2i are indicated for these patients.

METHODOLOGY

This study looks at metabolic benefits for subjects started on SGLT2 inhibitors in tertiary hospital settings. This retrospective cohort study included patients with T2D who started on SGLT2i (empagliflozin or dapagliflozin) from 2018 to 2024. Data on age, weight change, HbA1c and total daily dose of insulin (TDD) were obtained for one year from initiation of SGLT2i.

RESULTS

Total sample recruited was 100. Mean age was 57.2 years. Six subjects were on dapagliflozin, and 94 subjects were on empagliflozin. Mean baseline weight was 80.6 kg, HbA1c was 9.19% and insulin TDD was 45.46 units. At one year, mean weight reduction was 2.54 kg (95%CI [-3.556,-1.528]), P = <0.001. Mean HbA1c change was -0.02% (95%CI [-0.730, -0.695]), P = 0.961. Similarly, a slight reduction of insulin TDD by 2.6 units was observed at one year (95%CI [-6.51, -1.28], P = 0.184).