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### LONG-TERM TREATMENT OUTCOMES WITH GLUCAGON-LIKE-PEPTIDE-1 RECEPTOR AGONIST (GLP-1RA): A REAL-LIFE STUDY AT HOSPITAL PUTRAJAYA

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#### INTRODUCTION

GLP-1 receptor agonists (GLP-1RAs) are reputable for their weight loss and glucose lowering benefits from various clinical trials. However, the extent to which real-world patients with type 2 diabetes (T2D) continue to respond to GLP-1RAs in successive years has not been well characterized.

#### METHODOLOGY

We conducted a retrospective cohort study involving 64 patients with T2D initiated on GLP-1RAs spanning 2011 to 2022. We analysed their weight change, glycaemic control, rate of GLP-1RAs discontinuation and adverse effects.

#### RESULT

The median age of our cohort was 56 years (SD=13.4). Fifty-two patients (81.3%) had T2D longer than 10 years. Forty-two (65%) were on insulin therapy before the initiation of GLP-1RAs. At baseline, mean HbA1c was 8.5% (SD=1.6), with a mean body weight of 97.5 kg (SD=23.6). The largest HbA1c reduction (-0.52%,  $p=0.014$ ) was observed during the first 24 months of treatment but plateaued thereafter. The odds of achieving a better HbA1c reduction was much higher in younger patients ( $p=0.009$ ), T2D less than 10 years ( $p=0.016$ ) and lower baseline HbA1c ( $p<0.001$ ). Substantial weight loss was observed during the first year of treatment (-3.3 kg,  $p<0.001$ ) and the effect persisted beyond 5 years. The proportion of patients continuing GLP-1RA was 62.5% (2 years), 36% (3 years), 15.6% (5 years) and 12.5% beyond 6 years. Twenty-four patients (37.5%) discontinued treatment after an average duration of 36 months, due to lack of clinically meaningful HbA1c and weight reduction. Six patients (9.4%) developed pronounced gastrointestinal side effects, and three necessitated treatment discontinuation. Only one patient was hospitalized for adverse cardiac event within the first year of treatment.

#### CONCLUSION

GLP-1RAs continue to deliver the real-world benefit of weight loss beyond 3 years; however, its glucose-lowering effect diminished after the first 2 years. A personalized approach remains crucial in managing T2D patients on long-term GLP-1RA.