Real-world effectiveness of insulin glargine 300 U/mL in people with type 2 diabetes previously treated with tirzepatide: The DELIVER-T study

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PEER-REVIEWED FEATURE

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Introduction | Methods | Results | Conclusions

Introduction

Due to the chronic and progressive nature of T2D, many people with T2D will eventually require treatment with an injectable therapy for adequate glucose control [1]

Tirzepatide is a dual GIP and GLP-1 RA agonist that has demonstrated improved glycaemic control and a considerable body weight reduction versus GLP-1 RA or basal insulin [2–6]

The ADA recommends tirzepatide as one of the first-line injectable options for adults with T2D who have HbA1c > 7.0%; if HbA1c remains above the recommended target, the addition of a basal insulin is recommended [7]

Gla-300 is a long-acting, second-generation basal insulin analogue indicated to improve glycaemic control in people with diabetes, including adults with T2D [8,9]

Despite the increase in the use of tirzepatide in clinical practice as a therapy for T2D, there are limited data on the use of basal insulin in people with T2D after dual agonist therapy

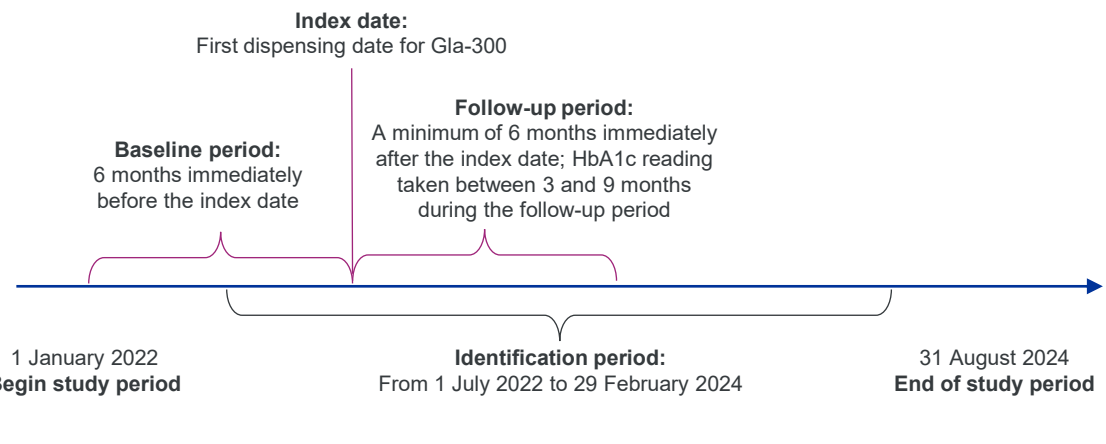
Objective

This retrospective study aimed to evaluate glycaemic control in insulin-naïve people with T2D previously treated with tirzepatide and newly intensified with Gla-300

Methods

An observational, retrospective and real-world evidence study to evaluate glycaemic control in insulin-naïve people with T2D

Data was collected from the Optum Clinformatics® Data Mart US database and included people with T2D aged ≥ 18 years, who had at least one dispensed prescription of tirzepatide prior to the index date, at least one dispensed prescription of Gla-300 and at least one valid HbA1c measurement during the baseline and follow-up period



The primary endpoint was the change in HbA1c levels from baseline to the end of the follow-up period

Secondary endpoints included: incidence and event rate of hypoglycaemia[a] the proportion of participants reaching glycaemic target of HbA1c < 7.0%, and the proportion of participants achieving HbA1c < 7.0% without experiencing hypoglycaemia at various thresholds[a]

The primary analysis (Gla-300 switch/add-on group) included all people with T2D with an HbA1c > 7.0% at baseline who were previously treated with tirzepatide and added or switched to Gla-300. The prespecified sub analysis (Gla-300 add-on group) included people with T2D with an HbA1c > 7.0% at baseline who intensified with Gla-300 as an add-on therapy to tirzepatide

Results

Key baseline characteristics

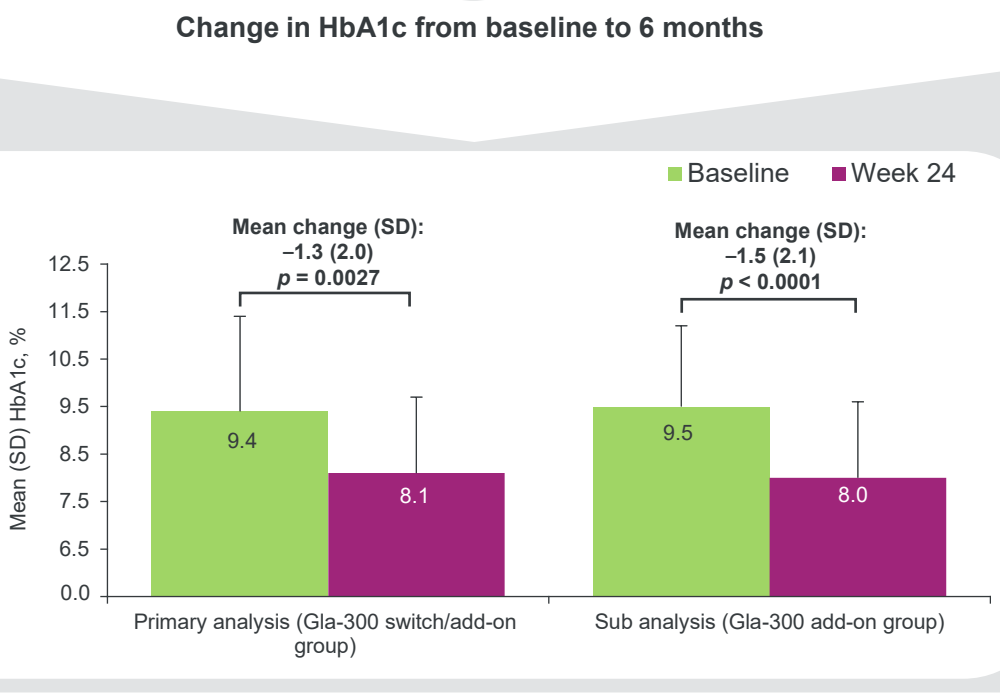
A total of 111 people met the inclusion criteria and were included in the study population

	Age, years, mean (SD)	Female, n (%)	Days of prior treatment with tirzepatide at baseline, mean (SD)	HbA1c closest to index treatment initiation, %, mean (SD)
Primary analysis (Gla-300 switch/ add-on group) (*n* = 82)[b]	**61.0** (10.1)	**48** (58.5)	**97.6** (88.3)	**9.4** (1.7)
Sub analysis (Gla-300 add-on group) (*n* = 66)[c]	**60.8** (10.2)	**38** (57.6)	**97.0** (85.1)	**9.5** (1.7)

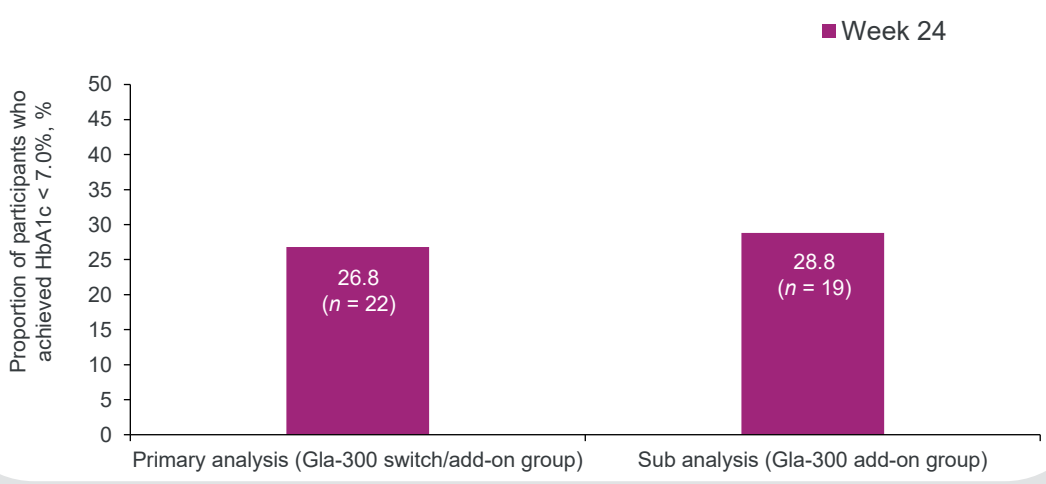
The most common comorbidities observed were hypertension, hyperlipidaemia and obesity for all groups

Primary and secondary endpoints

Change in HbA1c from baseline to 6 months



Proportion of participants reaching the target of HbA1c < 7.0% at 6 months



No hypoglycaemic events were recorded in the database, and no hypoglycaemia-related doctor visits were reported during the 6-month follow-up period across both groups

Conclusions

Insulin-naïve people with T2D who had sub-optimal HbA1c with tirzepatide and oral antihyperglycaemic medications experienced significant reductions in HbA1c when initiating Gla-300

These findings support the use of Gla-300 in people with T2D who have elevated HbA1c levels when receiving antihyperglycaemic medications plus tirzepatide

Abbreviations: ADA, American Diabetes Association; GIP, glucose-dependent insulinotropic polypeptide; Gla-300, insulin glargine 300 U/mL; GLP-1 RA, glucagon-like peptide-1 receptor agonist; HbA1c, glycated haemoglobin; SD, standard deviation; T2D, type 2 diabetes; US, United States.

Footnotes: [a]Hypoglycaemia thresholds: < 3.9 mmol/L, < 3.9 mmol/L and ≥ 3.0 mmol/L, < 3.0 mmol/L; [b]Participants with HbA1c > 7.0% at baseline who were previously treated with tirzepatide and added or switched to Gla-300; [c]Participants with HbA1c > 7.0% at baseline who were treated with tirzepatide and added Gla-300.

References: 1. Kendall DM, et al. Am J Med 2009;122:S37–50; 2. Mounjaro: Summary of product characteristics 2024. Available from: https://www.ema.europa.eu/en/documents/product-information/mounjaro-epar-product-information_en.pdf. (Last accessed August 2025); 3. MOUNJARO (tirzepatide) injection: prescribing information 2022. Available from: https://www.accessdata.fda.gov/drugsatfda_docs/label/2022/215866s000lbl.pdf. (Last accessed August 2025); 4. Frías JP, et al. N Engl J Med 2021;385:503–15; 5. Ludvik B, et al. Lancet 2021;398:583–98; 6. Del Prato S, et al. Lancet 2021;398:1811–24; 7. American Diabetes Association Professional Practice Committee. Diabetes Care 2025;48(Suppl 1):S181–206; 8. Toujeo: Summary of product characteristics 2015. Available from: https://ec.europa.eu/health/documents/community-register/2017/20171003139002/anx_139002_en.pdf. (Last accessed August 2025); 9. Toujeo (insulin glargine U-300): prescribing information 2018 [Available from: https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/206538s012lbl.pdf. (Last accessed August 2025).

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