

## **CLINICAL INSIGHTS**

## New Diabetes Drug Mounjaro Is Likely to Have a Big Impact

There is a new player on the field of diabetes management and based on early anecdotal reports and clinical trial data, it may establish its place sooner than later. Tirzepatide (tir ZEP a tide), branded as Mounjaro (mOUn-jar-O, like "mountain") from Eli Lilly, was approved for type 2 diabetes in May 2022 and uses a novel mechanism of action to help lower A1c. Mounjaro is the first GLP-1 (Glucagon-Like Peptide-1) and GIP (Glucose-dependent Insulinotropic Polypeptide) agonist available on the market. Mounjaro is a once-weekly injectable medication packaged in prefilled syringes at various doses. It does require a gradual dose titration over weeks to months to reach the maximum target dose (2.5 mg up to 15 mg).<sup>1</sup>

Mounjaro was approved based upon the results of multiple clinical trials showing its ability to significantly lower HbA1C. In these studies, Mounjaro was compared to either insulin therapy (Tresiba or Lantus) or injectable GLP-1 therapy (Ozempic). In all completed trials, Mounjaro not only showed significant decreases in A1c by over 2%, but also proved superior to all comparators, respectively. Additionally, greater weight loss was seen with Mounjaro, particularly at the maximum dose of 15 mg once a week, than any comparator medication. Mean weight loss of 15-20% of body weight (35-52 pounds) has been seen in studies and Eli Lilly is pursuing an FDA indication for obesity treatment. This degree of weight loss is greater than what has been shown with current obesity treatments Saxenda and Wegovy. Side effects were similar between groups, with gastrointestinal distress being the most common, but this led to few patients overall stopping treatment.<sup>2-6</sup> Cardiovascular and renal outcome studies are underway and will be completed by 2024.

Although the diabetes management arena is crowded with medications from a variety of classes, the evidence supporting Mounjaro suggests it will stake its claim among the contenders to help try to close the gap in lowering A1c and improving outcomes for people with type 2 diabetes. Pricing will vary based on insurance contracting, but cash prices are estimated in line with other once-weekly GLP-1 agonists of around \$1,000 per 4

weeks, or \$13,000 per year. 11-12 Sales are forecasted up to \$4.9 billion by 2026 and up to \$14 billion by 2030. 13-14 The manufacturer offers a copay assistance program that lowers the out-of-pocket cost to \$25 for patients for 1- or 3-month supplies and currently applies with or without commercial insurance. 15 While formulary coverage will likely evolve and expand approaching 1/1/2023, at least one searchable plan already accommodates Mounjaro, although with prior authorization to ensure use for FDA-approved indications. 16

Mounjaro represents an exciting new direction for type 2 diabetes management and is likely to gain significant traction among prescribers and patients, especially if added to major national formularies in 2023. National treatment guidelines such as the American Diabetes Association Standards of Medical Care will likely give an asterisk on its use until cardiovascular outcome results are available, but that is unlikely to be a major hurdle to use given the dramatic A1c- and weight-lowering effects seen already. Whether or not Mounjaro represents the first of many combined GLP-1/GIP agonists is to be determined, the evidence described above makes this product one to be aware of in the everchanging diabetes management landscape.

## **Sources**

- 1. Mounjaro. Package insert. Eli Lilly and Company; 2022.
- 2. Frías JP, Davies MJ, Rosenstock J, et al. Tirzepatide versus Semaglutide Once Weekly in Patients with Type 2 Diabetes. N Engl J Med. 2021;385(6):503-515. doi:10.1056/NEJMoa2107519
- 3. Ludvik B, Giorgino F, Jódar E, et al. Once-weekly tirzepatide versus once-daily insulin degludec as add-on to metformin with or without SGLT2 inhibitors in patients with type 2 diabetes (SURPASS-3): a randomised, open-label, parallel-group, phase 3 trial. Lancet. 2021;398(10300):583-598. doi:10.1016/S0140-6736(21)01443-4
- Del Prato S, Kahn SE, Pavo I, et al. Tirzepatide versus insulin glargine in type 2 diabetes and increased cardiovascular risk (SURPASS-4): a randomised, open-label, parallel-group, multicentre, phase 3 trial. Lancet. 2021;398(10313):1811-1824. doi:10.1016/S0140-6736(21)02188-7
- 5. Dahl D, Onishi Y, Norwood P, et al. Effect of Subcutaneous Tirzepatide vs Placebo Added to Titrated Insulin Glargine on Glycemic Control in Patients With Type 2 Diabetes: The SURPASS-5 Randomized Clinical Trial. JAMA. 2022;327(6):534–545. doi:10.1001/jama.2022.0078
- 6. A Study of Tirzepatide (LY3298176) Versus Insulin Lispro (U100) in Participants With Type 2 Diabetes Inadequately Controlled on Insulin Glargine (U100) With or Without Metformin (SURPASS-6). ClinicalTrials.gov. Accessed August 26, 2022. https://clinicaltrials.gov/ct2/show/NCT04537923

- 7. Heise T, Mari A, DeVries JH, et al. Effects of subcutaneous tirzepatide versus placebo or semaglutide on pancreatic islet function and insulin sensitivity in adults with type 2 diabetes: a multicentre, randomised, double-blind, parallel-arm, phase 1 clinical trial. Lancet Diabetes Endocrinol. 2022;10(6):418-429. doi:10.1016/S2213-8587(22)00085-7
- 8. Jill Rollet. SUPRASS-4: Tirzepatide slows kidney disease in adults with type 2 diabetes, CV risk. Healio News. June 4, 2022. Accessed August 26, 2022. https://www.healio.com/news/endocrinology/20220603/surpass4-tirzepatide-slows-kidney-disease-in-adults-with-type-2-diabetes-cv-risk
- 9. Jastreboff AM, Aronne LJ, Ahmad NN, et al. Tirzepatide Once Weekly for the Treatment of Obesity. N Engl J Med. 2022;387(3):205-216. doi:10.1056/NEJMoa2206038
- 10. Urtė Fultinavičiūtė. Lilly eyes weight loss arena for diabetes drug tirzepatide after positive data. Pharmaceutical Technology. June 10, 2022. Accessed August 26, 2022. https://www.pharmaceutical-technology.com/news/lilly-tirzepatide-weight-loss/
- Mounjaro. GoodRx. Accessed August 26, 2022.https://www.goodrx.com/mounjaro?dosage=4-pens-of-12.5mg-0.5ml&form=carton&label\_override=Mounjaro&quantity=1&sort\_type=popularity
- 12. Mounjaro Prices, Coupons and Patient Assistance Programs. Drugs.com. Accessed August 26, 2022. https://www.drugs.com/price-guide/mounjaro
- 13. Kevin Dunleavy. Lilly's highly anticipated diabetes drug Mounjaro wins FDA blessing. Fierce Pharma. May 13, 2022. Accessed August 26, 2022. https://www.fiercepharma.com/asia/lillys-highly-anticipated-diabetes-drug-mounjaro-blessed-fda
- 14. Jaimy Lee. Mizuho: Lilly's newly approved diabetes drug expected to bring in \$14 billion in sales by 2030. MarketWatch. May 16, 2022. Accessed August 26, 2022.