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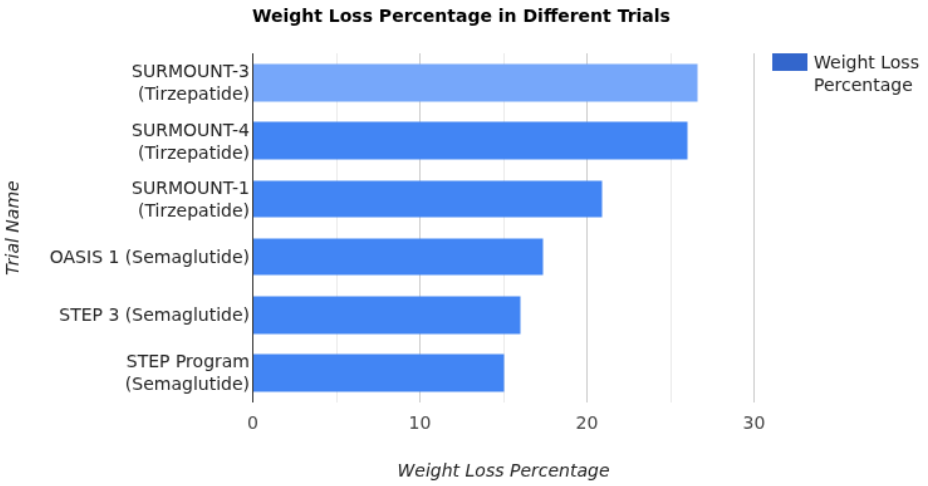
GLP-1 drug tirzepatide shines in SURMOUNT-3 trial with weight loss of 26.6%

By Brian Buntz | October 16, 2023

In the phase 3 SURMOUNT-3 trial, tirzepatide recipients saw some of the most impressive weight loss results among trials of GLP-1 drugs, including most notably semaglutide. In the study, participants' total mean weight loss was 26.6% over 84 weeks following a 12-week intensive lifestyle intervention and subsequent tirzepatide treatment. In all, participants who received tirzepatide lost an additional 18.4% of their body weight compared to a weight gain of 2.5% in the placebo group.

In SURMOUNT-3, some 87.5% of participants who received tirzepatide achieved an additional weight reduction of 5% or more, compared to 16.5% of those in the placebo group.

While it is difficult to compare data from separate studies, the highest weight loss percentage for tizepatide, 26.6%, was 53% higher than the highest percentage, 17.4%, for semaglutide (OASIS 1).



More possible momentum for tirzepatide

The data could drive more momentum for tirzepatide, a glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic polypeptide (GIP) dual agonist that generated $1.55 billion in sales in the first half of 2023. The Wall Street consensus is roughly $15 billion in peak sales with UBS foreseeing peak sales of $25 billion. Some analysts project that the drug could fetch up to $50 billion annually.

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The FDA approved the drug with a brand name of Mounjaro (tirzepatide) to treat type 2 diabetes in May 2022. In October, the drug received an FDA Fast Track designation for adults with obesity or overweight with weight-related comorbidities.

Tirzepatide safety profile in SURMOUNT-3

In SURMOUNT-3, the safety profile was in line with data from the previously shared SURMOUNT and SURPASS studies. The most common adverse events were gastrointestinal in nature, including nausea (39.7% vs. 14.0%), diarrhea (31.0% vs. 9.2%), constipation (23.0% vs. 6.8%), and vomiting (18.1% vs. 1.4%). COVID-19 diagnoses were common among both tirzepatide and placebo recipients (23.0% vs. 25.3%).

Most adverse events were mostly mild to moderate and occurred mainly during the dose escalation phase of the study. A total of 5.9% tirzepatide recipients experienced serious adverse events compared to 4.8% in the placebo group.

The table below summarizes weight loss outcomes and details from various trials of semaglutide and tirzepatide:

An overview of phase 3 GLP-1 studies

Drug	Trial Name	Dosage	Duration	Weight Loss	Participant Count	Additional Information
Semaglutide	OASIS 1	50 mg daily	68 weeks	Up to 17.4%	667	Oral semaglutide
Semaglutide	STEP 3	2.4 mg weekly	68 weeks	16.0%	611	Subcutaneous semaglutide
Semaglutide	STEP Program	2.4 mg weekly	Varies	Up to 15%	5,000	Subcutaneous semaglutide
Tirzepatide	SURMOUNT-1	5, 10, 15 mg	72 weeks	Up to 20.9%	2,539	Tirzepatide with monthly brief lifestyle counseling
Tirzepatide	SURMOUNT-3	10 or 15 mg weekly	72 weeks	26.6%	806	Tirzepatide post 12-week intensive lifestyle intervention
Tirzepatide	SURMOUNT-4	10 or 15 mg weekly	88 weeks	26.0%	670	36-week lead-in period followed by 52-week continued treatment

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Cost-effectiveness could drive tirzepatide adoption

A 2022 article in Diabetes, Obesity and Metabolism concluded that tirzepatide could be a potent competitor to semaglutide in terms of weight loss, especially among individuals with type 2 diabetes. The analysis explored the cost needed to treat for a 1% body weight reduction using both drugs, concluding, ultimately, that tirzepatide was more economical. The 52-week analysis found a cost-needed-to-treat value of $683.49 for tirzepatide versus $1,350.97 for semaglutide, underscoring tirzepatide's cost-effectiveness despite a higher upfront cost.

The article also simulated therapy group weight reduction costs per 1% of body weight reduction, concluding that tirzepatide would cost $1,196.90 compared to semaglutide's $1,511.17. The analysis, however, cited a need for head-to-head trials to corroborate its findings.

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As the pharma and biotech editor at WTWH Media, Brian has almost two decades of experience in B2B media, with a focus on healthcare and technology. While he has long maintained a keen interest in AI, more recently Brian has made making data analysis a central focus, and is exploring tools ranging from NLP and clustering to predictive analytics.

Throughout his 18-year tenure, Brian has covered an array of life science topics, including clinical trials, medical devices, and drug discovery and development. Prior to WTWH, he held the title of content director at Informa, where he focused on topics such as connected devices, cybersecurity, AI and Industry 4.0. A dedicated decade at UBM saw Brian providing in-depth coverage of the medical device sector. Engage with Brian on LinkedIn or drop him an email at bbuntz@wtwhmedia.com.

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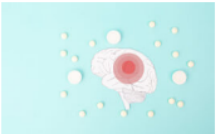

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