

## SEMAGLUTIDE: A POTENTIAL WEIGHT LOSS DRUG FOR OBESE PATIENTS

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Obesity is a worldwide health problem characterized by insulin resistance, hypertension, and dyslipidemia. It is linked to potential complications like diabetes mellitus, coronary heart disease, and nonalcoholic fatty liver disease, all contributing to reduced life expectancy. An association has been found recently between obesity and a higher number of hospitalizations, the need for mechanical ventilator, and fatalities in individuals with COVID.<sup>1,2,3</sup>

Weight loss is difficult even when the obese/overweight individual is on a diet and exercise program. Clinical guidelines recommend supplementary pharmacotherapy, especially for adults with a BMI of 30 or higher or 27 or higher in those with coexisting health conditions. Nevertheless, using existing medications is restricted due to their effectiveness, safety, and cost concerns.<sup>3</sup>

Semaglutide is a glucagon-like peptide-1 (GLP-1) analog which has been permitted for treating type 2 diabetes in adults and reducing cardiovascular event risks. It is administered subcutaneously once a week at doses up to 1 mg.<sup>4</sup>

Semaglutide has demonstrated weight reduction effects in type 2 diabetes and obese patients participating in a phase 2 trial, which warranted further exploration. The global phase 3 Semaglutide Treatment Effect in People with Obesity (STEP) program intends to assess the effectiveness and safety of a 2.4 mg once-a-week subcutaneous dose of semaglutide in individuals who are overweight or obese, with or without weight-related problems.<sup>5</sup>

Another clinical trial program evaluated the efficacy of once-a-week semaglutide 2.4 mg administered subcutaneously in these subjects. Across multiple trials, semaglutide 2.4 mg was linked with substantial weight reduction and improvements in cardiometabolic risk factors, physical function, and quality of life. A consistency of semaglutide 2.4 mg's safety profile across several studies were found, primarily in gastrointestinal side effects. The significant weight reduction observed in the STEP trials suggests a meaningful potential for enhancing clinical outcomes in patients suffering from obesity-related conditions.<sup>6</sup>

A meta-analysis explored the safety and effectiveness of semaglutide as a therapeutic agent in overweight or obese patients that don't have diabetes. The study found that semaglutide resulted in significant weight loss, reduced body

mass index and waist circumference, and improved blood pressure, C-reactive protein, and lipid profiles. However, semaglutide also caused more side effects than placebo, primarily gastrointestinal effects. These outcomes suggest that semaglutide can be an effective and safe option to reduce weight in overweight or obese individuals without diabetes.<sup>7</sup>

In light of the growing obesity crisis and its associated complications, it is essential to consider effective weight reduction strategies. Semaglutide has shown promising results in promoting weight reduction and improving cardiometabolic risk factors in overweight or obese people, with or without diabetes. The global phase 3 STEP program aims to assess the effectiveness and safety of a 2.4 mg once-a-week subcutaneous dose of semaglutide in these populations. While gastrointestinal adverse events have been reported, the overall safety profile remains consistent across trials. Considering its potential benefits and manageable side effects, semaglutide could be a viable option for weight loss management, particularly for individuals with obesity-related diseases. However, it is crucial to consult healthcare professionals before initiating any pharmacotherapy, taking into account individual medical histories and potential contraindications.

To conclude, obesity is a complex and widespread health problem that has significant implications for morbidity and mortality. Weight management strategies are critical for improving overall health and reducing the risks associated with obesity-related diseases. Semaglutide, a GLP-1 analog, has emerged as a potential pharmacotherapy alternative for weight control, with demonstrated efficacy and safety in multiple clinical trials. While gastrointestinal adverse events have been reported, the overall safety profile remains consistent, and the potential benefits of semaglutide make it a viable option for individuals with obesity-related diseases. However, it is essential to seek medical advice before initiating any treatment and follow a comprehensive weight management plan that includes diet and exercise modifications. Ultimately, effective weight management strategies can considerably increase the QOL for individuals with obesity and decrease the burden of related complications.

### REFERENCES

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