An Effective Weight-Loss Medication: Semaglutide

By Chuck Dinerstein, MD, MBA — February 15, 2021

Obesity has been a health problem long before it became a COVID-19 risk factor. The most significant advances in its medical, rather than behavioral treatment, has been bariatric surgery, until now. Could Big Pharma triumph over Big Knife?

The medication causing all the talk is semaglutide (Oh, you mean Ozempic or Rybelsus, both trade names) that are approved for Type II diabetes because they increase insulin production (the within) and thereby improve glucose metabolism. Semaglutide is a glucagon-like peptide-1 or GLP-1. The weight loss may result from GLP-1’s reduction of your appetite and slowing your digestion, leaving you feeling full longer and less hungry.

This was a global study of nearly 2000 individuals with a BMI of 30 or greater, or BMI of 27 or greater and coexistent hypertension, dyslipidemia, sleep apnea, or cardiovascular disease. The treatment group received subcutaneous injections of semaglutide, the control a placebo injection; both groups received “lifestyle interventions.” The outcomes of interest were weight loss as measured as a percent change from baseline and achieving a 5% or greater reduction in body weight over 68 weeks.

- Participants were primarily Caucasian, 14% Asian, 6% Black
- 95% of participants completed the study, 82% adhered to the study’s protocol
- In the treatment arm, the mean weight reduction was 14.9%, as compared to the placebo’s
2.4% - the treatment arm percentage increased to 16.9% when the protocols were followed.

- In other terms, the treatment arm lost 15.3 kg, the placebo 2.6 kg.
- BMI was reduced by over 5 in the treatment arm, by almost one in the control group.
- As with bariatric surgery, weight loss had additional benefits in reducing hypertension, lipid abnormalities, and, as would be expected, for medication treating diabetes, better fasting blood glucose, and HbA1c.
- Again, as you would expect, physical function improved, as did mental outlook.
- A subgroup underwent more explicit testing to show that the weight loss was primarily from fat rather than muscle.

Despite these promising numbers, there were some adverse reactions, typically gastrointestinal – nausea, vomiting, diarrhea, and constipation. More so in the treatment group, but also with the control arm. Perhaps “some” was the wrong word choice; adverse reactions were seen in nearly 90% of those taking semaglutide and 86% of those getting a placebo. There were far fewer serious adverse effects, roughly 10%. But the key here is that 7% of the semaglutide group stopped the medication because of these adverse reactions. Overall, the drug was safe in this group but came with side effects.

**Bariatric Surgery**

There are several procedures to reroute and reshape your gastrointestinal tract to reduce capacity and alter absorption, both reducing weight. Weight loss varies with the procedure but is in the range of 15 to 20% or more and is long-lasting, with sustained 10-year results. All the procedures come with a very small but real mortality. Depending upon the operation, there are complications in the range of 15-20%, some requiring re-operation.

Both medical and surgical management have costs, and it is a fool’s errand to try and draw comparisons for individuals. Both treatments have additional spill-over effects regarding your
overall health – you can expect that those secondary effects, especially the reduction in diabetes and subsequent cardiovascular disease, will become a greater focus as we move forward. For the moment, we have three different approaches that apply to what I believe are slightly different groups.

To those of us who feel a little overweight, a sensible diet and exercise program can be helpful. So can the plethora of programs sending you packaged meals or offering cognitive behavioral therapy. For those whose weight is at the extremes, bariatric surgery provides a way forward. For those in-between, we now have a medical option. We do not know how long you must be maintained on the medication and whether it will result in those hoped for spillover benefits.

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