Disspelling the Myths
Medications for obesity

Dr. Babak Dehestani, MD, Fellow in Obesity Medicine, University College Dublin and St Vincent's Private Hospital

Prof. Carel le Roux, FRCP, FRCPath, PhD, Professor of Metabolic Medicine, University College Dublin and St Vincent's University Hospital

Obesity is a chronic disease with two main symptoms: increased hunger and lack of satiety (fullness). The disease may have important complications such as type 2 diabetes, hypertension, heart disease, stroke, certain types of cancers, obstructive sleep apnea, worsening of osteoarthritis and fatty liver disease.

The repetitive cycles of hunger and satiety are mainly controlled by parts of the brain which we cannot control by thinking. Thus obesity is not the fault of the individual, although patients share the responsibility for effective treatment with clinicians.

It remains important to understand how the current medications work to better appreciate that obesity is a chronic disease that requires chronic treatment. Moreover none of the medications make people more intelligent or more motivated but rather when effective; the medications treat and control the disease of obesity.

Glucagon like peptide 1 analogues

The natural hormone, glucagon-like peptide-1 (GLP-1) is a satiety gut hormone.

The medications based on this hormone treats obesity and as a consequence increases fullness which in turns reduces food intake and body weight.

The medications also increases insulin secretion (reduces the risk of diabetes), slows gastric emptying (contribute to nausea), and improves salt excretion from the kidney (improves blood pressure).

GLP-1 based medications' main side-effects are nausea, vomiting, stomach discomfort, diarrhea and constipation. Rarely, can it cause gall stones formation (~3 in 100) and pancreatitis (~3 in 1000) in patients, especially those with a large amount of weight loss. In order to minimize side-effects we can always slow dose titration.

GLP-1 analogues for obesity currently require injections under the skin once a day (Liraglutide) or once a week (Semaglutide).

Liraglutide can be used in patients with and without diabetes up to a maximum dose of 3mg.

Semaglutide is only licensed for people with diabetes up to a dose of 1mg per week.

Semaglutide is also currently available in the USA for the treatment of people without diabetes at a dose of 2.4mg weekly.

We hope to have this available in Europe in 2022.

Oral Semaglutide will be available for people with diabetes in 2022 but initial studies showed that it is not as potent as injectable form in achieving sustainable weight loss.

Mysimba

This is a combination of naltrexone, a medication used to block opioids, and bupropion, a medication which increases natural chemical in the brain involved with appetite regulation. Mysimba treats the disease of obesity and as a result patients feel less hunger, have fewer cravings, eat smaller portions of food, and lose weight. Side-effects include nausea, insomnia (trouble sleeping at night), restlessness, anxiety, headache, disturbance in concentration, dizziness, hot flushes and palpitation. Mysimba cannot be used in patients with uncontrolled hypertension and patients who have had seizures. To minimize side-effects, dose titration can the slowed down.

Orlistat

This medication inhibits enzymes in the gut (lipases) which absorb fat. If patients consume fat they have significant oily diarrhea, but this doesn't cause weight loss. However if patients reduce the amount of fat in their diet then they don't have any diarrhea, but because of the reduction in calorie intake they lose weight. Thus orlistat works by changing patients from mindless eating to mindful eating. Orlistat is not absorbed into the blood stream and thus don't have any side effects, but the negative effects of orlistat only occurs if patients overeat fat. In order to reduce the undesirable effects and to optimize weight loss, patients should have a low-fat diet while using this medication.

In conclusion, all the above-mentioned medications result in 10-15% weight loss in those patients who respond to the treatments. There are responders and non-responders to each treatment and at the moment we cannot predict prior to treatment who will be a responder.

Therefore, if the patient doesn't have a reduction in symptoms and don't reduce their weight by 5% at 3-4 months, the medication should be discontinued.

Furthermore, motivation does not influence this biological response, but the amount of weight a first degree relative has lost or the weight loss of a patients after 3 months on the medication may predict long term outcomes.