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Semaglutide Benefits in Patients With Obesity and Prevalent Heart Failure

According to a new study, the anti-obesity drug semaglutide may help prevent heart attacks and other major cardiac events in overweight individuals with cardiovascular disease, whether or not they also have heart failure. The study is published in The Lancet.

This research builds on previous findings, which showed that weekly injections of semaglutide were associated with a 20% reduction in major adverse cardiac events (MACE), such as heart attacks and strokes, in people with obesity or who were overweight and had cardiovascular disease.

The study reveals similar cardiovascular benefits for a subgroup of participants diagnosed with heart failure at the start of the trial.

The researchers analysed data from 4,286 individuals—part of the 17,605 participants in the landmark Semaglutide and Cardiovascular Outcomes (SELECT) trial—who were randomly assigned either semaglutide or a placebo and followed up over more than three years.

As per the findings, semaglutide was linked to a 28% reduction in MACE (with 12.3% of the placebo group experiencing such events compared to 9.1% of the semaglutide group). Additionally, there was a 24% reduction in cardiovascular-related deaths and a 19% reduction in deaths from any cause among participants with pre-existing heart failure.

Study authors highlight that the previous SELECT analysis demonstrated the benefits of semaglutide for people with cardiovascular disease who were obese or overweight. This new study shows that people with heart failure within this group had similar positive outcomes.

There had been concerns about the potential risks of semaglutide for those with a type of heart failure known as reduced ejection fraction. However, these findings show that the benefits of semaglutide were consistent regardless of the type of heart failure.

Semaglutide, a GLP-1 receptor agonist, mimics the effects of the body's natural incretin hormones, which help lower blood sugar levels after meals. Initially prescribed for adults with type 2 diabetes, semaglutide is the active ingredient in Wegovy and Ozempic. In July, the UK medicines regulator approved Wegovy for private prescription to individuals with cardiovascular disease, based on evidence from the SELECT trial. However, it is not yet recommended for this use within the NHS, where it is currently available only for weight management and type 2 diabetes treatment.

The exact mechanism by which semaglutide delivers cardiovascular benefits remains unclear but may involve its positive effects on blood sugar, blood pressure, inflammation, and direct impacts on heart muscle and blood vessels. The reduction in all-cause mortality across all heart failure groups hints at additional, yet unidentified, benefits.

The study compared the impact of semaglutide on two types of heart failure: preserved ejection fraction and reduced ejection fraction. Although these two heart failure types have different causes and respond differently to treatment—with preserved ejection fraction being less responsive to traditional treatments—the researchers found that semaglutide's benefits were consistent across both types, independent of age, sex, baseline BMI, and clinical status.

Serious adverse events were reported more frequently in the placebo group than in the semaglutide group. However, treatment discontinuation was more common in the semaglutide group, primarily due to gastrointestinal disorders (14.7% vs. 9.0% in heart failure groups; 17.2% vs. 7.9% in non-heart failure groups).

The researchers concluded that these findings support the use of semaglutide, alongside usual care, to reduce the risk of major adverse cardiac events in a broad population of individuals with established atherosclerotic cardiovascular disease and overweight or obesity. They called for further trials to evaluate semaglutide's impact on heart failure-related outcomes, noting that SELECT was not a dedicated heart failure trial and its results cannot be generalised to all heart failure patients.

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Source: University College London

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