

Semaglutide: An Effective Treatment for HFpEF in Obese Patients

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Heart Failure with Preserved Ejection Fraction (HFpEF) affects over 32 million individuals globally. It's linked to a 15% annual mortality risk and 1.4 hospital admissions per patient¹. Increased prevalence of HFpEF is linked to a heavy symptom burden and functional impairment, especially in obese people. According to previous global clinical trial programs agents such as Sodium-glucose co-transporter 2 inhibitors (Dapagliflozin), sacubitril-valsartan, and spironolactone are known to be used for HFpEF. Still, these drugs showed only modest changes in KCCQ (Kansas City Cardiomyopathy Questionnaire) scores (ranging from 0.5 to 2.3 points). Obesity can cause heart failure with preserved ejection fraction, especially in obese individuals. This can lead to severe symptoms, decreased functioning, and lower quality of life. There has always been a need to examine whether once-weekly 2.4 mg semaglutide, known to cause significant weight loss in overweight or obese adults, can also improve exercise capacity and alleviate HFpEF symptoms in this specific patient population.

A recent groundbreaking randomized, placebo-controlled trial by Kosiborod et al.,² found that semaglutide, a glucagon-like peptide 1 (GLP-1) agonist, given once weekly at a dose of 2.4mg resulted in higher reductions in symptoms and physical limitations, greater improvements in

exercise function, and greater weight loss than placebo in 529 individuals with obesity and HFpEF. The dual primary endpoints were the Kansas City Cardiomyopathy Questionnaire clinical summary score (KCCQ-CSS) and the change in body weight. Confirmatory secondary endpoints were variations in the change in the 6-minute walk distance and the C-reactive protein (CRP) level. Compared with the established treatments, semaglutide performed best as in 529 randomized patients, this agent had a mean change in the KCCQ-CSS of 16.6 points with semaglutide and 8.7 points with placebo (estimated difference, 7.8 points). 35 participants (13.3%) in the semaglutide group and 71 participants (26.7%) in the placebo group had serious adverse events; the reduced rate of cardiac disorder events in the semaglutide group was the main factor in the between-group difference. Most of the adverse incidences that forced withdrawal were gastrointestinal.

As the population ages and develops more comorbid conditions, the prevalence of HFpEF is predicted to rise even further in the future decades hence it is necessary to use effective treatment options such as semaglutide as it helps treat HFpEF, reduces weight, and improves cardiometabolic risk factors³. SGLT2 inhibitors are used to treat HFpEF but have minimal effect on weight loss. In contrast, semaglutide treated



HFpEF's underlying cause along with weight loss. It is important to note that the study mentioned earlier has several limitations as it was not adequately powered to investigate clinical outcomes such as hospitalizations for heart failure and urgent visits. Its primary goal was to evaluate the effects of semaglutide on symptoms, physical restrictions, and exercise function. Secondly, the follow-up period was only 1 year, so it is impossible to determine if the effects will last longer. Future studies should investigate therapy options with fewer side effects and longer trials. Further studies should also assess the potential of semaglutide in other weight loss techniques or groups, such as those with obesity and heart failure with reduced ejection fraction. Finally, a

sincere appreciation is extended to the leading researchers for their crucial contribution to the field of cardiovascular disorders through this ground-breaking study.

References

1. Redfield MM, Borlaug BA. Heart Failure With Preserved Ejection Fraction. *JAMA*. 2023;329(10):827. doi:10.1001/jama.2023.2020
2. Kosiborod MN, Abildstrøm SZ, Borlaug BA, et al. Semaglutide in Patients with Heart Failure with Preserved Ejection Fraction and Obesity. *New England Journal of Medicine*. Published online September 21, 2023. doi:10.1056/nejmoa2306963
3. Kosiborod MN, Bhatta M, Davies M, et al. Semaglutide improves cardiometabolic risk factors in adults with overweight or obesity: <sc>STEP</sc> 1 and 4 exploratory analyses. *Diabetes Obes Metab*. 2023;25(2):468-478. doi:10.1111/dom.14890