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Semaglutide may protect kidney function in individuals with overweight or obesity and cardiovascular disease

The SELECT Trial has revealed the potential of semaglutide, a glucagon-like peptide-1 (GLP-1) receptor agonist, in combating kidney function decline among individuals with overweight or obesity and established cardiovascular disease but without diabetes.¹

Unveiling the results today at the 61st ERA Congress, researchers presented the impressive secondary analysis from the SELECT (Semaglutide Effects on Heart Disease and Stroke in Patients with Overweight or Obesity) trial, a randomised trial comprising a participant pool of 17,604 individuals.

Experts believe the study's results offer hope for those affected by obesity, a condition known to exacerbate the risk of kidney function decline and macroalbuminuria (abnormal amounts of the albumin protein in urine).²

With an average follow-up of approximately 3.5 years, among patients who were administered a once-weekly subcutaneous injection of semaglutide 2.4 mg (n=8,803) adverse kidney-related events were experienced by 22% fewer persons (1.8%) compared to those receiving placebo (n=8,801) (2.2%) (p<0.05). These events included death from kidney causes, initiation of chronic kidney replacement therapy, significant ($\geq 50\%$) decline in kidney function, or onset of persistent macroalbuminuria. Semaglutide's ability to prevent the onset of macroalbuminuria was highlighted as a pivotal factor in reducing the likelihood of kidney-related complications.

The study also assessed the impact of semaglutide on estimated glomerular filtration rate (eGFR), a measure of kidney function in removing waste and excess water from the blood through urine. The findings indicated a significantly lesser decline in eGFR among semaglutide recipients compared to the placebo group, with the effect being more pronounced in participants with baseline eGFR below 60 mL/min/1.73 m² (p<0.001). These results indicate the potential for semaglutide to particularly protect kidney function in individuals with a pre-existing kidney impairment.

The reduction in urinary albumin-to-creatinine ratio (UACR) further substantiated semaglutide's beneficial effect on kidney health, with a significant decrease observed in semaglutide-treated individuals compared to placebo (p<0.001). UACR analysis measures the ratio of albumin (a protein) to creatinine (a waste product) in urine, aiding the detection of albuminuria, which can signal kidney damage or dysfunction. With semaglutide, there was a net 8.1% decrease in UACR in those with normal albumin levels at baseline, a 27.2% decrease in those with albuminuria category A2 (formerly called microalbuminuria) at baseline, and a 31.4% decrease in those with albuminuria category A3 (formerly called macroalbuminuria) at baseline relative to placebo.

Importantly, the study found no increased risk of acute kidney injury associated with semaglutide treatment, irrespective of baseline kidney function.

Over one billion people worldwide are affected by obesity.³ Rates of obesity are rising significantly, having doubled among adult women (8.8% to 18.5%) and nearly tripled in adult men (4.8% to 14.0%) between 1990 and 2022. The total number of children affected by obesity in 2022 was nearly 160 million, compared to 31 million in 1990.⁴

Professor Helen M. Colhoun, lead study author, commented, "By addressing key markers of kidney health, semaglutide 2.4 mg weekly may contribute to a significant reduction in the risk of kidney-related complications, including chronic kidney disease and end-stage renal disease. This could lead to improved management of comorbidities and, ultimately, enhance the quality of life for individuals with obesity."

"The observed benefits in eGFR and UACR are particularly encouraging, suggesting potential for the enhanced management of kidney complications in the patient population with overweight and obesity without diabetes. The findings also underscore the importance of continued research into the possible renal benefits of semaglutide and

highlight its role as a promising therapeutic option in the multifaceted management of cardiovascular and renal health in this high-risk population."

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Notes to editors:

A reference to the ERA Congress must be included in all coverage and/or articles associated with this study.

For more information or to arrange an expert interview, please contact press@era-online.org

About the study author:

Professor Helen M. Colhoun holds the AXA Research Fund endowed Chair in Medical Informatics and Epidemiology at the University of Edinburgh. Her research interests include clinical trials to reduce cardiovascular and other complications in people with and without diabetes and large scale epidemiological studies of the pathogenesis and opportunities for preventing such complications using molecular epidemiology approaches.

About the European Renal Association (ERA):

With more than 25,000 active members, the ERA is one of the biggest nephrology associations worldwide leading European nephrology, and one of the most important European Medical Associations. It organises annual congresses and other educational and scientific activities. The ERA also collects data and performs epidemiological studies through its Registry. The Society supports fellowships and educational/research projects through its committees and working groups. Its publications are NDT, CKJ (Open Access journal), and the online educational portal NEP.

The 61st ERA Congress takes place between 23-26 May 2024, both virtually and live in Stockholm, Sweden.

Website: www.era-online.org

References:

1. Effect of semaglutide on kidney outcomes in people with overweight or obesity and established cardiovascular disease in the SELECT trial, Colhoun H. M. (2024). Presented at the ERA Congress 2024.
2. Kovesdy, C. P., Furth, S. L., Zoccali, C., & World Kidney Day Steering Committee (2017). Obesity and kidney disease: hidden consequences of the epidemic. *Journal of nephrology*, 30(1), 1–10. <https://doi.org/10.1007/s40620-017-0377-y>
3. World Health Organization (2024). One in eight people are now living with obesity. <https://www.who.int/news/item/01-03-2024-one-in-eight-people-are-now-living-with-obesity>
4. Imperial College London (2024). More than one billion people now living with obesity, global analysis suggests. [https://www.imperial.ac.uk/news/251798/more-than-billion-people-living-with/#:~:text=In%20adults%2C%20obesity%20rates%20more,to%206.2%25%20in%20men\).](https://www.imperial.ac.uk/news/251798/more-than-billion-people-living-with/#:~:text=In%20adults%2C%20obesity%20rates%20more,to%206.2%25%20in%20men).)