Effects of semaglutide on chronic kidney disease in patients with type 2 diabetes

Efecto de semaglutide sobre la enfermedad renal crónica en pacientes con diabetes mellitus tipo 2

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Dear Editor, we would like to congratulate Dr. Perkovic and colleagues demonstrating that semaglutide reduced by 24% the risk of kidney outcomes and death from cardiovascular causes in persons with type 2 diabetes (T2D) and chronic kidney disease (CKD)[1]. In SUSTAIN 6, semaglutide showed renal benefits mainly in terms of albuminuria reduction, interestingly the metabolic effects (blood sugar control and body weight) were higher in the 1 mg dose as compared to 0.5 mg[2]. In concordance, in the SUSTAIN FORTE, the 2 mg weekly dose was also better in metabolic control[3], indicating that the effect is in part dose-dependent. In addition, when studying kidney function Shaman et al. found that 1 mg of semaglutide has a higher effect in reducing albuminuria and delaying glomerular filtration rate progression as compared to liraglutide 1.8 mgs/day and low semaglutide dose 0.5 mgs/weekly[4]. The SELECT trial clearly demonstrated renal benefit of 2.4 mgs/weekly semaglutide in obese persons without diabetes[5]. Although the results of FLOW study are impressive, we are wondering if the beneficial effects could be in part dose-dependent. By now, FLOW trial demonstrated that semaglutide is a cardiorenal protective drug in patients with T2D and CKD, but it is not known if the higher doses used in persons with obesity may exert better renal benefits in comparison to the doses used in patients with T2D.

Conflicts of interest

The authors declare that:

J.R.F received honoraria as a speaker and consulting fees from Novo Nordisk, AstraZeneca, Eli Lilly, Bayer, Sanofi, Boehringer-Ingelheim, Merck and MSD.

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References

1. Perkovic V, Tuttle K, Rossing P, Mahaffey K, Man J, Bakris G, et al. Effects of semaglutide on chronic kidney disease in patients wtih Type 2 diabetes. N Engl J Med. 2024;391:109-21.
2. Marso SP, Bain SC, Consoli A, Eliaschewitz FG, Jódar E, Leiter LA, et al. Semaglutide and cardiovascular outcomes in patients with type 2 diabetes. N Engl J Med. 2016;375:1834-44.
3. Frías JP, Auerbach P, Bajaj HS, Fukushima Y, Lingvay I, Macura S, et al. Efficacy and safety of once-weekly semaglutide 2·0 mg versus 1·0 mg in patients with type 2 diabetes (SUSTAIN FORTE): a double-blind, randomised, phase 3B trial. Lancet Diabetes Endocrinol. 2021;9:563-74.
4. Shaman AM, Bain SC, Bakris GL, Buse JB, Idorn T, Mahaffey KW, et al. Effect of the glucagon-like peptide-1 receptor agonists semaglutide and liraglutide on kidney outcomes in patients with type 2 diabetes: pooled analysis of SUSTAIN 6 and leader. Circulation. 2022;145:575-85.
5. Ryan DH, Lingvay I, Deanfield J, Kahn SE, Barros E, Burguera B, et al. Long-term weight loss effects of semaglutide in obesity without diabetes in the SELECT trial. Nat Med. 2024;30:2049-57.