Effect of prior GLP-1 RA treatment on clinical outcomes in patients with type 2 diabetes initiating treatment with tirzepatide

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Background

Tirzepatide is a GLP-1/GIP co-agonist treatment for type 2 diabetes. Participants in the SURPASS trials were GLP-1RA naı¨ve, but in clinical practice many patients are switched from other GLP-1RAs. Aims To explore effects of prior GLP-1RA treatment on tirzepatide therapy outcomes.

Methods

Review of clinical data from an outpatient Diabetes centre. Adults with 6 months follow-up post tirzepatide initiation were included, (nZ1375. GLP-1RA exposure was classified as 'naïve' (no GLP-1RA ever dispensed, (nZ192), 'prior exposure' (no GLP-1RA in preceding 12 months), 'injectable semaglutide' 'oral semaglutide' or 'other injectable GLP-1RA". Linear regression analyses were adjusted for prior bariatric surgery and tirzepatide discontinuation.

Results

Mean (95%CI) adjusted change in weight was -7.0(-7.6; -6.3)kg in the naïve group, -5.2(-6.2; -4.2)kg in the prior exposure group, -5.4(-6.6; -4.1)kg in the oral semaglutide group, -4.4(-5.0; -3.9)kg in the other injectable GLP-1RA group, and -3.7(-4.1; -3.3)kg in the injectable semaglutide group at 6 months. Mean adjusted change in HbA1c was -1.22(-1.36; -1.07)% in the naïve group, -0.76(-0.96; -0.55) % in the prior exposure group, -0.79(-1.06; -0.53) in the group switched from oral semaglutide, -0.70(-0.81; -0.58) in the other GLP-1RA group, and -0.55(-0.62; - 0.48)% in the injectable semaglutide group. Weight outcomes differed significantly between naïve and prior exposure ($P<0.05$), injectable semaglutide ($P<0.001$), and other injectable GLP-1RA ($P<0.001$) groups, and between the prior exposure and injectable semaglutide groups ($P<0.05$).

Conclusion

At 6 months, tirzepatide treatment resulted in significantly higher reductions in weight and HbA1c in GLP-1RA naïve patients than those switched from other GLP-1RAs. Individuals switched from injectable semaglutide had the least additional weight loss and HbA1c reduction.