

Novel antidiabetes drugs improve composite renal outcomes

Meta-analysis of digitised individual patient data reveals absolute treatment of effects of GLP-1 RAs and SGLT2 inhibitors on a composite renal outcome.

The beneficial effects of sodium–glucose cotransporter 2 inhibitors (SGLT2is) and glucagon-like peptide-1 receptor agonists (GLP-1 RAs) on diabetes-related cardiovascular and renal outcomes were established in major cardiovascular outcome trials (CVOTs) in people with type 2 diabetes. These glucose-lowering drugs were subsequently shown also to be effective in people without type 2 diabetes.

Despite the wealth of published data, the absolute treatment benefits (expressed as number needed to treat [NNT]) of GLP-1 RAs and SGLT2is on renal outcomes remain uncertain. The present retrospective study aimed to display and compare NNT of both drug classes for a composite renal outcome.

Individual patient time-to-event information on composite renal outcomes was digitised from Kaplan–Meier plots of major CVOTs comparing SGLT2is or GLP-1 RAs to placebo. To

achieve absolute risk differences of both treatment groups, parametric Weibull regression models were fitted for all trials separately. Random-effects meta-analysis generated meta-NNTs for the two drug classes.

In total, information from 90 865 patients was extracted for analysis across twelve CVOTs (GLP-1 RAs were investigated in three and SGLT2is in nine). Eight trials took place in primary type 2 diabetes populations, two in primary heart failure and two in primary chronic kidney disease. Mean eGFR at baseline ranged from 37.3–85.3 mL/min/1.73 m².

A total of 6199 (6.8%) participants experienced a composite renal event. Estimated meta-NNT for the prevention of a single event was 85 (95% CI, 60–145) for GLP-1 RAs and 104 (81–147) for SGLT2is, at the overall median follow-up of 36 months.

The investigators conclude that there are moderate and similar absolute

treatment benefits of GLP-1 RAs and SGLT2is compared to placebo for a composite renal outcome.

The full study findings can be read [here](#). ■

