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MEDBRIEF

Tirzepatide: A 'Rising Star' in T2D Renal Protection

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TOPLINE:

A meta-analysis showed that all doses of tirzepatide, a novel twincretin molecule, reduced albuminuria levels without affecting renal function in patients with type 2 diabetes (T2D).

METHODOLOGY:

- A meta-analysis of eight randomized controlled trials compared the effects of tirzepatide and control treatment (placebo or any active comparator) on albuminuria levels and renal function in patients with T2D.
- The pooled data included 6226 patients with T2D who received tirzepatide (5, 10, or 15 mg) and 3307 participants in the control group who received placebo, semaglutide, or insulin.
- The primary outcome was the difference in absolute change in urinary albumin-creatinine ratio (UACR) from baseline between the tirzepatide and control groups.
- The secondary efficacy endpoint was the comparative change in estimated glomerular filtration rate (eGFR) between the two groups.

TAKEAWAY:

- Overall, tirzepatide reduced UACR by ~27% (mean difference [MD], −26.9%; $P < .001$) compared with controls.
- The reduction in UACR was consistent across all tirzepatide doses (5 mg: MD, −23.12%; 10 mg: MD, −27.87%; 15 mg: MD, −27.15).
- Benefits of tirzepatide were even more pronounced in patients with increased albuminuria levels (UACR ≥ 30 mg/g) at baseline (MD, −41.42%; $P < .001$) than in controls.

- However, tirzepatide vs control treatment did not have a significant effect on eGFR levels (*P* = .46), which indicated no negative effect of tirzepatide on renal function.

IN PRACTICE:

"Tirzepatide seems to be a 'rising star' for the prevention and delaying of chronic kidney disease and related, surrogate renal outcomes in patients with T2DM," the authors wrote.

SOURCE:

Paschalis Karakasis, MD, Aristotle University of Thessaloniki, Thessaloniki, Greece, led this study, which was published online on December 20, 2023, in the journal *Diabetes, Obesity and Metabolism.*

LIMITATIONS:

There was significant heterogeneity between the studies. Bias may have come from the open-label design in the included randomized controlled trials. The pathophysiological mechanisms underlying the effect of tirzepatide on chronic kidney disease pathogenesis are speculative.

DISCLOSURES:

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