

Vitamin D Receptor Activation Reduces Albuminuria in Patients with Diabetic Nephropathy

Paricalcitol also had beneficial effects on systemic blood pressure and glomerular filtration rate.

Although angiotensin-c the decline of renal function in patients with diabetes, patients who receive these agents often have residual albuminuria and risk for renal failure. Prior studies have suggested that vitamin D receptor activation further reduces albuminuria and slows progression of renal insufficiency.

In a manufacturer-sponsored randomized trial, 281 patients with type 2 diabetes and nephropathy received either 1 µg or 2 µg daily of oral paricalcitol (Zemplar), a selective vitamin D receptor activator licensed for treatment of secondary hyperparathyroidism in end-stage renal disease, or placebo. All patients had been taking stable doses of an ACE-I or ARB for at least 3 months. After 24 weeks, the urine albumin-to-creatinine ratio — the primary outcome — declined by 18% in the 2-µg group relative to that in the placebo group ($P=0.053$). In addition, 24-hour urine albumin excretion, estimated glomerular filtration rate, and systolic blood pressure all fell significantly in the 2-µg group relative to the placebo group.

Comment: Paricalcitol — which costs thousands of dollars per year — might augment protection of renal function in patients with diabetes when added to ACE-Is or ARBs. But this trial employed only surrogate endpoints; proof of efficacy will require longer studies with definitive renal and safety endpoints.

— **[Bruce Soloway, MD](#)**

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