

CLINICAL TRIALS

Cardiovascular benefits of paricalcitol in chronic kidney disease

Beneficial effects of vitamin D analogues on cardiovascular outcomes in the chronic kidney disease (CKD) population have been elusive. In the first randomized controlled trial of its kind, researchers now show that an active vitamin D analogue can exert a positive effect on the cardiovascular system of patients with CKD.

The Paricalcitol and Endothelial Function in Chronic Kidney Disease (PENNY) trial analysed the effects of paricalcitol on flow-mediated dilation (FMD), in 88 patients with stage 3–4 CKD and parathyroid hormone levels >65 ng/l.

Zoccali and colleagues showed that those administered paricalcitol for 12 weeks exhibited improved endothelium-dependent vasodilatation, as compared with the placebo group. This improvement equated to a 61% increase in the endothelium-dependent FMD response, which returned to baseline levels within 2 weeks of treatment withdrawal.

The researchers comment that treatment with paricalcitol produced a functional effect that was both “real and reversible,” and was “well tolerated” by the majority of patients. Furthermore, the observed effects elicited by paricalcitol were specific, with no significant changes detected in endothelium-independent vasodilatation. Only a minimal and reversible reduction in glomerular filtration rate was reported, which was independent of blood pressure.

Although this single-centre study included a fairly small number of participants, the researchers say these data provide new evidence that paricalcitol therapy might resolve endothelial dysfunction and, therefore, potentially reduce the risk of cardiovascular events in patients with stage 3–4 CKD.

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