Cardio DIGEST
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Editorial

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Lipid lowering in chronic kidney disease

It is well recognised that people with chronic kidney disease (CKD) demonstrate a higher incidence and prevalence of cardiovascular disease (CVD) compared with the general population (Foley et al, 1998). Consequently, CKD is considered as a high-level risk factor for the management of CVD.

Until recently, data examining the effects of lipid-lowering therapy in CKD have been restricted, predominantly because people with CKD are excluded from most large CVD trials. As such, evidence that dyslipidaemia confers the same risk for CVD in people with CKD as in the general population has been lacking, as has evidence of reduced cardiovascular mortality and morbidity with the use of lipid-lowering therapy. As a consequence, only approximately half of patients with CKD have received appropriate lipid-lowering therapy for elevated LDL-cholesterol levels (Parikh et al, 2006).

"Decreasing lipid levels seems to be safe and effective in people with CKD, particularly with regard to the prevention of cardiovascular outcomes. Thus, such practice should now be incorporated into evidenced-based guidelines."

Recently, a systematic review and meta-analysis was performed that reports on CVD outcomes, kidney outcomes and adverse events associated with lipid-lowering therapy in individuals with CKD The meta-analysis builds on the ongoing initiative of Kidney Disease: Improving Global Outcomes (KDIGO) guideline development of lipid management in CKD (Upadhyay et al, 2012). The analysis utilised data from randomised controlled trials of lipid-lowering therapy in people with CKD, which included the following studies: ALERT (2003 – kidney transplant patients – fluvastatin versus placebo); 4D (2005, haemodialysis patients, atorvastatin versus placebo); UK-HARP-II (2006, stage 3–5 CKD including haemodialysis and peritoneal dialysis recipients, ezetimibe plus simvastatin versus simvastatin); AURORA (2009, haemodialysis recipients, rosuvastatin versus placebo); and, finally, SHARP (2011, stage 3–5 CKD, ezetimibe plus simvastatin versus placebo). The analysis also comprised lipid trials that reported results for individuals with CKD as part of a broader population.

Thus, five randomised controlled trials involving populations exclusively with CKD and a further 13 trials with CKD subgroup analyses from broader populations were utilised. All studies utilised major adverse cardiovascular events (MACE) or composites of cardiovascular mortality, myocardial infarction and stroke as endpoints. Furthermore, the studies also provided rates of all-cause mortality.

Lipid-lowering therapy did not improve kidney outcome but significantly reduced risk for cardiac mortality (risk ratio [RR], 0.82; 95% confidence intervals [CI], 0.74–0.9; $P<0.01$), cardiovascular events (RR, 0.78; 95% CI, 0.71–0.86; $P<0.001$) and myocardial infarction (RR, 0.74; 95% CI, 0.67–0.89; $P<0.001$). The significant benefit on stroke could not be commented upon owing to a high degree of heterogeneity among the studies and their results. There were no increases in adverse events with lipid-lowering in people with CKD.

Thus, decreasing lipid levels seems to be safe and effective in people with CKD, particularly with regard to the prevention of cardiovascular outcomes. Thus, such practice should now be incorporated into evidenced-based guidelines.

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