

Dyslipidemia and CKD: Role of Statin

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Cardiovascular disease (CVD) is the leading cause of morbidity and mortality not only amongst the general population, but also in patients with chronic kidney disease (CKD). Dyslipidemia is a well-known risk factor for cardiovascular disease in the general population, and the cardioprotective role of statins is well established. However, although cardiovascular disease is the major cause of morbidity and mortality in patients with CKD, the role of statin therapy is still under investigation. Persons with CKD are much more likely to die of CVD than to experience kidney failure; however, the majority of large-scale statin trials excluded patients with CKD. In CKD, the relation of dyslipidemia to cardiovascular risk is complex, and the underlying pathobiological mechanisms are complex. Abnormalities in lipid metabolism occur in patients with all stages of CKD. In contrast to general population, the most common dyslipidemia in CKD patients is hypertriglyceridemia, whereas the total cholesterol concentration can be normal or low, perhaps due in part to malnutrition.

Statin could have different effects in the different stages of CKD. Statin significantly reduced the risk of all-cause and cardiovascular mortality in CKD patients who are not receiving renal replacement therapy. The absolute benefit of treatment with statins seems to be greater among early or nondialysis-dependent-CKD patients; however, studies in end-stage renal disease patients on dialysis did not confirm these results. Clinical studies with statins on proteinuria reduction and renal disease progression have yielded conflicting results. Statins appear to be safe in this population.

The National Kidney Foundation Kidney Disease Outcomes Quality Initiative (NKF KDOQI) recommendations: all patients with CKD, even in the absence of known CVD, should be considered at high risk of CVD outcomes. Goal lipid levels are LDL cholesterol <100 mg/dL (<2.59 mmol/L) and non-HDL cholesterol <130 mg/dL (<3.36 mmol/L). The KDOQI guidelines potentially are still valid for CKD stage 3, but likely do not apply to dialysis patients.