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Clinical effect of early statin uses in Kidney Transplant Recipients: Results from the KNOW-KT study

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Introduction: Cardiovascular disease remains a leading cause of morbidity and death with a functioning graft after kidney transplantation. Although statins reduce cardiovascular risk and have renal benefits in the general population, their beneficial effects in kidney transplant recipients have not been well established.

Methods: We studied whether early statin use affects long-term transplant outcomes in 714 kidney transplant recipients from the Korean Cohort Study for Outcome in Patients with Kidney Transplantation. Patients were divided into a group that received statins within 1 year after transplantation (statin group) and a group that did not (no statin group).

Results: In total, mean age of the 714 recipients was 45.6 years, 83.1% received a kidney from a living donor, and 25.5% had diabetes mellitus at the time of transplantation. Compared with no statin group, statin group recipients were significantly older, had a higher body mass index, and were more likely to have diabetes mellitus. During a median follow-up of 85 months, 74 graft losses occurred (54 graft failures and 15 patient deaths). A multivariable analysis confirmed that early statin use was independently associated with lower all-cause graft loss (hazard ratio, 2.441; 95% CI, 1.395-4.271). Low-density lipoprotein (LDL) cholesterol levels were higher in the statin group at the time of transplant, but from 1 year posttransplant, LDL cholesterol levels of the statin group were consistently lower than those of the no statin group. A total of 37 major cardiovascular adverse events (MACE) occurred. Although statin group had a higher crude incidence of MACE, multivariate analysis showed no significant difference between two groups. There were no significant differences between two groups in biopsy-proven acute rejection and graft renal function.

Conclusion: Among the kidney transplant recipients, early statin use effectively lowers LDL cholesterol levels and is associated with a lower risk of all-cause graft loss.