Abstract Type : Oral presentation
Abstract Submission No.: A-0634
Abstract Topic : Transplantation

Prevalence of Polypharmacy and Its Association with Clinical Outcomes in Kidney Transplant Recipients

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Objectives : Polypharmacy (PP), the use of multiple medications, is common among kidney transplant recipients (KTR) due to due to lifelong immunosuppressive therapy and comorbidity management. However, its impact on clinical outcomes remains unclear. This study examines the association between PP and adverse outcomes in KTR.
Methods : We analyzed data from the Korean Cohort Study for Outcomes in Patients with Kidney Transplantation (KNOW-KT), including 972 KTR. PP was defined as ≥10 medications at one-year post-transplant. Outcomes included all-cause mortality, graft failure, and cardiovascular events. Inverse probability of treatment weighting (IPTW) was applied to balance baseline characteristics.
Results : PP was present in 49% of KTR, with an average of 9.8 medications. After IPTW, PP was not significantly associated with all-cause mortality or graft failure. However, PP was significantly associated with increased cardiovascular event risk (HR 1.8, 95% CI 1.07–2.96, p=0.026). The incidence rate of cardiovascular events per 1000 person-years was 15.2 in the PP group vs. 8.7 in the non-PP group. Kaplan-Meier analysis showed a significant difference in cardiovascular event-free survival between groups (log-rank p=0.008).
Conclusions : PP did not affect mortality or graft failure but was linked to higher cardiovascular risk. Optimized medication management is crucial to reduce cardiovascular complications in KTR.