

POST-TRANSPLANTAT SURVIVAL OF KIDNEY TRANSPLANT RECIPIENTS IS SIGNIFICANTLY IMPAIRED BY PRE-TRANSPLANT CORONARY ARTERY DISEASE

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Background: Coronary artery disease is a frequent comorbidity among transplant candidates. Limited data exist on the long-term outcomes of kidney transplant recipients (KTR) with pre-existing coronary artery disease (preCAD) at time of transplantation.

Methods: This retrospective single center analysis included 878 deceased donor KTR between 1999 and 2014. Prevalence of patients with preCAD and history of myocardial infarction (MI) was determined at the time of transplantation. Follow-up analysis over a maximal period of 15 years included patient and graft survival.

Results: 218 KTR (24.8%) with preCAD were identified. 73 KTR (8.3%) had an additional history of MI. Mean follow-up in the cohort was 5.8 ± 3.8 years. KTR with preCAD were significantly older, showed a higher proportion of males, higher BMI and higher donor age. Other baseline characteristics did not differ significantly.

KTR with preCAD had a significantly higher 7-year mortality than KTR without preCAD (37.3% vs. 16.6%, $p < 0.001$) (Fig. 1a) The highest mortality was found in KTR with an additional history of MI (48% after 7 years, Fig. 1b). Comparing younger (<65 years) and elderly (≥ 65 years) KTR without and with preCAD we found mortality rates of 13% vs 25% in younger KTR, and 32% vs 55% in elderly KTR at 7- years post-transplant (Fig. 1c).

A multivariate analysis adjusted for preCAD, pre-existing diabetes mellitus, recipient and donor age, gender, time on dialysis, prior kidney transplantation and HLA-mismatches identified preCAD as an independent risk factor for post-transplant mortality (HR 1.84, $p < 0.001$).

Conclusions: PreCAD is a strong independent risk factor for poor survival in younger and elderly KTR. The severe impact of preCAD on mortality emphasizes the need for careful evaluation, monitoring and consequent treatment of coronary artery disease in kidney transplant recipients.

Figure 1

