**DEVELOPMENT OF SEVERE CHRONIC KIDNEY DISEASE AFTER ORTHOTOPIC HEART TRANSPLANTATION**

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Background: Chronic kidney disease (CKD) is a complication of orthotopic heart transplantation (OHTx) and factors that impact renal function other than exposure to immunosuppressive drugs are not well defined. We sought to investigate risk factors for development of severe-CKD following OHTx.

Methods: We retrospectively reviewed 844 consecutive patients who underwent OHTx from 1998-2010. Those with baseline eGFR>30 and a 5-year follow-up were included (n=680). CKD-EPI equation classified patients by pre-operative eGFR (mL/min/1.73m2): pre-normal (>60) and pre-moderate-CKD (30-60). Severe-CKD was defined as having post-OHTx eGFR<30 between 2 months and 5 years post-OHTx. Kaplan-Meier and multivariate Cox proportional-hazards testing were used for statistical analyses.

Results: Patients were 51.9±13.2 years old and included 23.3% women and 14.2% African Americans. Pre-transplant eGFR was 86.3±19.7, and 45.6±8.5 and 5-year incidence 7.69% and 15.27% in pre-normal and pre-moderate-CKD groups, respectively. Pre-moderate-CKD had higher incidence of severe-CKD at all times during follow-up (figure). Age, CMV, diabetes, LVEF, and Hepatitis C were significant predictors for development of CKD in the pre-moderate group. Multivariate analysis showed that pre-moderate-CKD (Hazard ratio: 2.92, p<0.001), was independently associated with long-term mortality after adjusting for risk factors.

Conclusions: Five-year incidence of severe CKD following OHTx is noteworthy. Pre-moderate-CKD does not only has a higher likelihood of development of severe CKD post-OHTx but it is also an independent predictor of long-term mortality. Given the impact of immunosuppressive regimen on renal function, a meticulous follow-up should be instituted to identify those at risk and to intervene at an early stage if severe-CKD were to develop.