

LONG TERM OUTCOMES OF CONTRAST INDUCED ACUTE KIDNEY INJURY IN RENAL TRANSPLANT RECIPIENTS

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We studied the association between contrast induced acute kidney injury (AKI) in renal transplant recipients after cardiac catheterization and long term outcomes including estimated glomerular filtration rate (eGFR) at 3-6months after procedure, time to death, time to first hospitalization for cardiovascular event (myocardial infarction, congestive heart failure, symptomatic arrhythmias), time to first hospitalization for subsequent AKI, and time to progression to need for dialysis. We conducted a retrospective review of 77 procedures on 57 patients at our institute from Jan 2000 to Sep 2007 and studied one case per patient (the most recent procedure). Duration of follow-up was until occurrence of the clinical outcome or data collection (11/19/2008).

There were 42 male patients and mean \pm SD age was 58.2 \pm 10.1yrs. Mean baseline (24 hour pre-procedure) eGFR was 52.8 \pm 23.6 ml/min/1.73m². Contrast induced AKI, defined as rise in serum creatinine of 25% or 0.5mg/dl within 3 days post-contrast exposure, occurred in 9 patients (15.8%). eGFR at 3-6months after the procedure in patients who experienced AKI (37.8 \pm 22.1ml/min/1.73m²) was lower, but not different from baseline value (47.4 \pm 29.4 ml/min/1.73m², p=0.24); while eGFR in patients without AKI was (53.4 \pm 22.9ml/min/1.73m² at follow-up vs. 52.1 \pm 18.2 ml/min/1.73m² at baseline, p=0.58). There were 20 deaths, 28 rehospitalizations for first cardiovascular event, 22 rehospitalizations for first AKI event and 5 patients started dialysis at mean 45.2month follow-up. Kaplan-Meier survival analysis revealed mean survival of patients who experienced AKI (62.3 \pm 13.0months) to be lower but not different from patients without AKI (70.4 \pm 6.2months, log rank test p=0.70). Similar analysis showed no significant difference in time to first cardiovascular event (54.0 \pm 14.8months in AKI vs 43.3 \pm 4.9months in non-AKI; p=0.71), first AKI event (67.0 \pm 9.4months in AKI vs 58.1 \pm 6.4months in non-AKI; p=0.58) and time to start of dialysis (85.4 \pm 10.9 months in AKI and 92.7 \pm 4.4months in non-AKI; p=0.78). Contrast induced AKI in renal transplant recipients is associated with a mild deterioration of renal function and may increase mortality, progression of kidney disease and the need for dialysis.