



Trends in Preoperative Cardiac Evaluation in Renal Transplant Candidates (CERT): A Single-Center Experience



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BACKGROUND

- Candidates for renal transplantation frequently undergo pre-operative cardiac evaluation.
- This evaluation sometimes includes a cardiology consult, ECG, echocardiography, stress testing, and even coronary angiography.
- Since there is a very limited role for revascularization in asymptomatic patients to prevent future cardiac events, it is unclear how beneficial pre-operative diagnostic testing is in low risk/asymptomatic patients.

AIMS OF THE STUDY

- Analyze the practice trends regarding utilization of stress testing in the pre-operative evaluation of renal transplant candidates.
- Characterize renal transplant candidates in our center according to baseline cardiac risk
- Quantify the proportion of renal transplant candidates who undergo cardiac evaluation.
- Determine which diagnostic tests/treatments are offered to renal transplant candidates who undergo cardiac evaluation.

METHODS

- This was a retrospective chart review of all the renal transplant candidates evaluated at OUMC and it's allied clinics from January 1, 2005 to November 15, 2016.
- Data was collected about basic demographic features, underlying cardiac conditions, risk factors for cardiac disease, stress testing & MACE (major adverse cardiovascular events) at 3 and 30 days.
- MACE was defined as MI, PCI, CABG, Death, Prolonged hospitalization
- We divided patients into 4 groups based on cardiac risk factors and stress testing. (table 1)

RESULTS

- Data was collected on 255 transplant candidate patients.
- The average age of the cohort was 53 years.
- 37.3% (97) patients were female.
- 7 out of 12 patients underwent stress MPI in group without risk factors where as 5 patients had a stress echocardiogram.
- Out of 106 patients in the group with risk factors, 50 patients had stress MPI, 41 patients had a stress echocardiogram and 15 patients had a coronary angiogram.
- Our data showed only 6 (2.35%) events in 255 patients within first 30 days post-transplant suggesting low incidence of MACE within the first 30-day period in all 4 groups.
- 3 events (NSTEMI) happened in the group with traditional risk factors and normal stress testing.
- 2 patients with MACE were in the group that had traditional cardiovascular risk factors but did not undergo preoperative stress testing. 1 patient suffered NSTEMI and the second patient had PEA cardiac arrest.
- 1 event (NSTEMI) happened in the group without any risk factors or stress testing.

CONCLUSIONS

- This retrospective analysis provides information about the practice patterns regarding use of stress testing in pre-renal transplant work up in our medical center.
- Our findings suggest that incidence of MACE in the post-transplant period is low.
- Larger studies involving multicenter clinical registries may be needed to help guide decisions on perioperative cardiac testing in this group of patients.

Groups	Number of Patients (n= 255)	Number of patients with MACE (n=6)
a) Patients with cardiac risk factors who underwent stress testing	106	3
b) Patients with cardiac risk factors who did not have any stress testing	88	2
c) Patients without cardiac risk factors who underwent stress testing	12	0
d) Patients without cardiac risk factors and no stress testing	49	1

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