

RENAL TRANSPLANT - ORAL PRESENTATIONS

RTO1. Allograft Dysfunction Due To Rejection In Live Kidney Transplant Recipients – A Single Centre Experience

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Aim: To study the prevalence and types of rejection among live kidney transplant recipients attending our transplant OP

2. To study the clinical profile of live kidney transplant recipients with rejection

3. To identify causes other than rejection in transplant recipients who underwent allograft biopsy

Materials and Methods: Study design – Retrospective cross sectional study

Study period – May 2016 to October 2016

Inclusion criteria – All patients attending our transplant OPD

Details regarding patient's age, sex, native kidney disease, types of rejection and treatment details collected. Donor data including age, relationship and co-morbidities noted. Analysis of HLA haplotyping, CDC crossmatch, induction regimen and any delayed graft function in the immediate post transplant period were also done.

Results and Conclusion: A total of 46 patients had undergone biopsy for allograft dysfunction. 39 patients had rejection. The most prevalent type was T cell mediated rejection in 15 patients, closely followed by antibody mediated rejection in 14. Borderline cell mediated rejection was noted in 11 patients. The least common was chronic allograft nephropathy in 5 patients. Methylprednisolone pulse was given for all patients. Steroid resistant rejection requiring ATG was present in 8 patients. Plasmapheresis and low dose IVIG of 1g/kg was required in 15 patients. Bortezomib was tried for 1 patient with resistant AMR.

Recurrence of IgAN was identified in 3, calcineurin inhibitor toxicity in 2, acute interstitial nephritis and recurrence of FSGS was recognized in each one of the patient.

Of the total 46 donors, 9 were spousal donors. Induction regime was given in 7 of them. The most frequent HLA match was 3/6. No case of delayed graft function could be identified.

RTO2.Acute antibody mediated rejection in renal allograft recipients- a single center experience with Bortezomib.

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Aim: To assess the outcome of patients with acute antibody mediated rejection in renal allograft recipients.

Materials and methods: All patients with acute antibody mediated rejection among those who underwent renal transplantation during the period 15th December 2012 to 15th June 2016 were analyzed.All were treated with low dose IvIg with plasmapheresis and Bortezomib.Donor and recipient characteristics (age,history of sensitization,terminal creatinine, cross match positivity) were compared.Immediate response to treatment,treatment related complications and outcome of these patients at 6 months was assessed.

Results: Nine patients had acute antibody mediated rejection. Of these 6 were deceased donor allograft recipients and 3 live renal allograft recipients. Of the three live donors two were spousal donations and one was donated by sibling.Reipient male to female ratio was 1.25:1. Mean recipient age was 42.5 years and donor age 36.2 years. Mean donor S.Cr was 1.07mg/dl.Of the nine patients one had CDC cross match 12% and in the rest eight it was less than 10%. One patient presented with ABMR following drug default.Treatment related complications were present in 2 patients. Both had thrombocytopenia following administration of Bortezomib and one patient developed CMV infection and one succumbed to sepsis.Mean peak S.Cr was 5.2mg/dl.Mean S.Cr at completion of treatment regime was 1.6mg/dl.

Among deceased donor recipients,.patient survival at 6 months was 88.8% and graft survival was 88.8%.Mean S.Cr at 6 months was 1.07mg/dl. Patient survival and graft survival in patients with no ABMR was 94.73% and 89.47% respectively.

Conclusion: In our study 6 month patient and graft survival of patients treated for acute antibody mediated rejection was 88.88%.

RTO3.Early Initiation of ACE inhibitors in the post renal transplant period:
A Study from a state run tertiary care centre

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Introduction: Angiotensin converting enzyme inhibitors (ACEI) comprise a drug class that inhibit the effects of angiotensin II. Converting enzyme inhibitors (ACEI) are well documented to be potent antihypertensives with renoprotective effects but are grossly underutilized in renal transplant recipients. However, these drugs have been reported to cause elevated potassium and creatinine levels in some renal transplant patients. There have been no reports of prospective studies of ACEI in renal transplant patients in the early posttransplant period. The purpose of this study is to assess the safety of an ACEI class, when started in early posttransplant setting.

Material and Methods: We reviewed 84 kidney transplant patients during the period of January 2012 to April 2016 at our institution. 72 patients were initiated on ACEI therapy. Patients who initiated therapy after day 5 and before day 365 of post transplant were included.

Results: Recipients were stratified into two groups according to the time of ACE inhibitors into early (within six months posttransplantation) and late (after six months after transplantation) group. For each patient haemoglobin, serum creatinine and potassium levels were analyzed at the beginning of ACE inhibitors and at the end of the first, sixth and twelfth month. In the 57 (79.1%) of the 72 patients, ACE inhibitors were initiated within six months posttransplantation and in 15 (20.9%) patients ACE inhibitor were initiated after six months posttransplantation. There was no statistically significant difference between the two groups related to age or gender or the duration of dialysis treatment before the transplantation. Analyzing the haemoglobin, creatinine and potassium serum levels after initiation of therapy with ACE inhibitors through the observed period, we did not find any statistically significant difference in all measured parameters between the two groups of patients or within the same group of patients. One patient in early initiation group had hyperkalemia, which was secondary to tacrolimus induced.

Conclusions: ACE I can be used successfully in post renal with beneficial long term impact on renal function. There is need for further randomized controlled studies to see the effect of ACEI on graft function and its survival.

RTO4.Comparison of different induction agents used in renal transplantation unit

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Aim: To study and compare the efficacy and outcome of different induction agents used in our renal transplantation unit

Materials And Methods: A prospective study was conducted from August 2014 to December 2015 with the above aim which included all renal transplant recipients who received induction agents during surgery and immediate post transplant period. The induction agent and the dose was decided as per the recipients affordability after discussing the merits and demerits. Those recipients who expired within one month of surgery were excluded. They were regularly followed up upto one year to evaluate and compare the efficacy and outcome of these agents. SPSS software was used for statistical evaluation with chi square test and ANOVA test used for comparison

Results: Forty eight recipients were included in the study – received either rabbit ATG or equine ATG or Basiliximab. 28 were male recipients and 14 were females. 4(9.5%) of them were live altruistic recipients and 38(90.5%) were deceased donor recipients. 39(92.5%) recipients had their first transplant, 2(4.8%) of them had their 2nd transplant and 1 recipient(2.4%) had the 3rd transplant. The mean nadir creatinine attained was 1.18, mean creatinine at 1 year was 1.82 and mean tacrolimus dose was 3.04 mg- with no significant difference between the 3 agents. 12(28.57%) had delayed graft function- there was no significant difference between them in the occurrence of DGF. 22 recipients(52.38%) had at least one episode of rejection – immediate or late($p=0.12$). Twenty five recipients (59.5%) had an episode of infection – either minor or life threatening ($p=0.09$). The incidence of CMV infection was significantly higher among r ATG group($p=0.04$). NODAT occurred in 12 recipients(28.57%) – highest incidence in rATG group($p=0.046$). There was increased incidence of mortality among eATG and r ATG groups compared to basiliximab($p=0.01$). The induction agents were compared among themselves and with a group who had not received any induction agent to compare efficacy and outcome.

Conclusion : No induction agent was found to be superior in preventing a biopsy proven rejection episode. There was significantly increased mortality among r ATG and eATG groups unlike previous study reports. Significantly increased CMV infection in rATG group was seen in this study also as reported by others.

RTO5.Incidence and outcome of transplant renal artery stenosis: single centre experience

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Introduction: Transplant renal artery stenosis (TRAS) is a recognized, potentially curable cause of post transplant arterial hypertension, allograft dysfunction and graft loss.

Aim: To study the incidence, clinical presentation and outcome of TRAS in renal allograft recipients.

Materials and methods: This is a retrospective study done at Institute of Nephrology Madras Medical College from Jan 2009 to Nov.2016. Demographic data, type of renal donor, post-transplant evaluation including DGF, acute rejection, CMV status, BP profile and graft function were studied. Lab and investigation data including serum potassium, lipid profile, Doppler transplant renal artery and angiogram were analysed.

Results Out of 526 renal allograft recipients studied, 7 patients had TRAS(1.3%). Of them, four (57%) were males. Six were deceased donor renal transplant recipients. The time-line of TRAS ranged from 3 to 30 months (median: 5 months) post renal transplant. Three patients presented with refractory hypertension, six patients developed allograft dysfunction and 3 patients presented with anuria. Screening Doppler showed significant hemodynamic changes in all patients. Six patients had had delayed graft function and 3 had rejection episodes. All patients were treated with percutaneous transluminal angioplasty with stenting and one patient had recurrent TRAS after 1 year and treated with balloon angioplasty and stenting. Out of 7 patients, 3 patients have normal graft function and 3 had chronic graft dysfunction and 1 patient had graft loss.

Conclusion:

1. Incidence of TRAS in the study was 1.3%
2. 85.7% of the patients were deceased donor transplant recipients.
3. Doppler study had 100% sensitivity.

RTO6. Establishing and sustaining a successful deceased donor transplantation program in the public sector in resource poor setting - The JIPMER Experiment in Pondicherry

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Introduction: Deceased donor organ donation in India is only 0.34pmp and is restricted to large cities. JIPMER, a public sector hospital in Pondicherry, a relatively small town in South India, catering to a largely rural underprivileged population, established a Deceased Donor Program in 2013 and has successfully sustained the program for 3 years, transplanting 51 patients from deceased donor kidneys. The program has resulted in an organ donation rate of 10.8pmp in the state of Puducherry, higher than the national average

Aim: To study clinical profile, clinical course and management of brain dead donors. To study the short term outcomes of deceased donor kidney transplantation at JIPMER

Methods: A deceased donor transplantation committee was constituted with members from stakeholder depts. SOPs for brain death certification, management of the donor, organ harvesting, Pre-defined forms & checklists for brain death certification and completion of medico-legal formalities were drafted. A 'Nodal Officer' and a team of 'transplant coordinators' were appointed. Educational activities on brain death were organized for staff. Medical records of all deceased donors and kidney transplant recipients from December '13 to November '16 were retrieved from medical records dept.

Results: Brain Death was certified and organs harvested from 24 deceased donors at the institute during the study period. The conversion rate from potential organ donor was 52%. Donor mean age 38.5 ± 13.3 yrs, 75% male, head injury from fall from two wheeler without helmet was most common cause (60%), median time to reach ED JIPMER was 8.6 ± 7.7 hrs. majority (75%) had a GCS of 3 at admission. The potential donors were hemodynamically unstable at time of first contact and were subsequently managed in CCU until organ retrieval. The mean time from admission to organ harvesting time was 39.85 ± 9.87 hours. 55% had AKI (Cr > 1.2 mg/dl), 75% had hypotension, 60% had hypothermia, 90% had Diabetes insipidus; hypernatremia (40%) and hypokalemia (25%) were the most common electrolyte abnormalities, 100% required vasopressor (avg. > 2 ionotropes) support. IV fluids received by the donor in ICU and OT were 4500 ± 2444 mL and 2165 ± 953 mL respectively and mean hourly urine output was 310 ± 19 ml. Warm ischemia time was negligible (0 minutes) and mean cold ischemia was

178±137.5 minutes. The recipients mean age was 35.4 yrs, 65% were male, 95% were on HD with 22.2 months of dialysis vintage. 12.5%, 5% and 7.5% had DGF, SGF and graft nephrectomy respectively. 12% had early acute rejection and 76% had PTDM, UTI was the most common infection post-transplant. The mean serum creatinine at discharge was 1.42±1.3mg/dl. Over mean follow-up of 1.37±0.67 years, patient and graft survival rates were 85% and 75% with mean SCr of 1.76±0.84 mg/dl.

Conclusions: Donors were in poor general condition when taken over by Deceased Donor team. Proactive measures to identify potential donors in the emergency dept. may improve this by early identification of potentially brain dead patients. Once taken over by the Critical Care Team, there were no loss of potential donors and organs were harvested from all. Utilization of Kidneys within the harvesting center minimizes cold ischemia time with minimal occurrence of DGF & excellent short term outcomes. With strong administrative will power, a committed critical care Team and with committed individuals coming together to work as a close knot team, it is possible to successfully establish and sustain a deceased donor program even in the public sector, resource poor setting in India.