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DO THE TIMELINE AND SPECTRUM OF INFECTIONS CHANGE AFTER ANTI-REJECTION THERAPY IN KIDNEY TRANSPLANT RECIPIENTS?

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BACKGROUND AND AIMS: The infections in kidney transplant recipients has been well defined. The timeline of infections and type of infection among patients who received anti-rejection therapy for acute rejection when compared to the patients who did not develop an acute rejection.

METHOD: Renal transplant recipients with post-transplant median follow up of four years from July 2009-June 2018 were included in a retrospective cohort study at a tertiary care hospital. Demographic characteristics, biopsy proven rejections, infections and graft and patient outcome were collected from transplant records and the hospital clinical workstation. Early and late acute rejections were defined as less than and more than 3 months respectively. The rates of various infections, type and time to develop an infection in the acute rejection group were compared with the patients who did not develop any rejection.

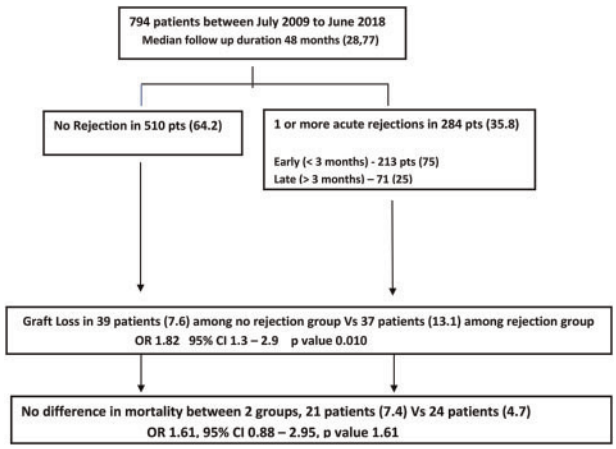
RESULTS: A total of 794 patients underwent kidney transplant during the study with mean age of 35.5±12 years and 78% being male. Two hundred and eight four patients (35.8 %) had one or more biopsy proven rejections during the median follow up of 48 months (IQR 28,77). 213 patients (75%) developed early acute rejection (less than 3 months) while the remainder developed late acute rejection. The median time to develop the first acute rejection was 12 days (IQR 6,93.3). Majority of the patients (176, 62%) developed biopsy proven acute cellular rejection, 77 patients (27.1%) acute antibody mediated rejection and rest (10.9%) either mixed or borderline rejection who were treated. The proportion of BKV infection and infective diarrhea were more in rejection group when compared to no rejection group which was statistically significant

(refer Table 1). At follow up, the patients who developed rejection had more graft loss (p value 0.010) but no increase in mortality. The predictors of infection among the patients who received anti-rejection therapy were identified. The median time to develop any infection in both groups were also compared. The spectrum of infections and outcome following early and late rejections were compared. Subgroup analysis was done to look at the eGFR, proteinuria trend, graft outcomes in patients with no rejection, rejection without any infection at follow up and rejection with any infection at follow up. The effect of type of anti-rejection therapy on spectrum of infections was also studied.

MO995 Table 1: Proportion of infections in patients with rejections and no rejection at follow up

Infection, N (%)	Rejection N=284	No Rejection N = 510	p value	OR	95%CI
UTI	45(15.8)	96(18.8)	0.170	0.81	0.55-1.19
BKV infection	38(13.4)	39(7.6)	0.007	1.86	1.16-2.99
CMV infection	43 (15.1)	57(11.2)	0.068	1.42	0.93-2.17
PCP	4(1.4)	6(1.2)	0.50	1.21	0.34-4.33
Systemic Fungal	15(63)	16(3.1)	0.098	1.72	0.84-3.537
Nocardiosis	3(1.1)	1(0.2)	0.132	5.48	0.57-52.92
Infective Diarrhoea	16(5.7)	49(9.8)	0.029	0.55	0.31-0.99
Varicella/herpes	12(4.2)	26(5.1)	0.353	0.82	0.41-1.64
Malignancy	4(1.4)	7(1.4)	0.602	1.02	0.29-3.51

CONCLUSION: This is one of the few studies which looked at the effect of anti-rejection therapy in kidney transplant recipients. Anti-rejection treatment received post kidney transplant resulted in increased rates of BKV infection and infective diarrhea. Patients with acute rejection had more graft loss during follow up with no significant effect on mortality.



MO995 Figure 1: Graft loss and mortality in patients with and without rejection. All values are denoted as N (%).