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Is not treating ≤ 3000 IU /ml of Cytomegalovirus viremia safe in Living Donor R+D+ Renal Transplant Recipients?

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Background:

- Graft dysfunction with morbidity and mortality
- Living donor program with 99% R+D+
- Non-availability and cost of oral Val ganciclovir
- Event driven CMV treatment
  - No fixed CMV
- PROTOCOL-Treat all CMV with viral load of >3000 IU/ml in WHOLE BLOOD

- Objective
  - Outcome of not treating patients with CMV viral load ≤3000 copies/ml among living donor D+R+ renal transplant recipient

Methods:

- Renal Transplant Recipients
  - January 2018 to December 2020
- CMV viral load of ≤ 3000 in Whole Blood
- The first CMV episode is taken
- Patient are divided into those who are treated and those who are not
- Demographics, HLA match, time since transplant, immunosuppression at the time of transplant and 90 days before CMV episode, rejection 90 days before and after CMV episode
- Outcome
  - Tissue invasive disease
  - Recurrent CMV
  - Serum creatinine at the last follow up (4 years post-transplant) are compared

Results

A total of 112 had viral load of ≤3000 IU/ml. Out of these 78 (69.3%) are not treated

	Treated n=34	Not Treated n=78	p Value
Age	28.68 ± 6.83	29.6 ± 1.21	0.768
Gender	27 (79.4)	62 (79.5)	0.993
HLA Matching*			
Good	22 (64.7)	58 (74.4)	0.538
Bad	8 (23.5)	12 (15.4)	
Identical	4 (11.3)	8 (10.3)	
Immunosuppression at Time of Transplant			
Induction ATG	11 (32.4)	19 (24.4)	0.252
TAC based	8 (23.5)	14 (17.9)	0.494
AZA based	26 (76.5)	66 (84.6)	0.393
CyA based	26 (76.5)	62 (79.5)	0.713
MMF based	7 (20.6)	13 (16.7)	0.618

	Treated n=34	Not Treated n=78	p Value
Immunosuppression at 90 days prior to CMV			
TAC based	19 (55.9)	38 (48.7)	0.486
CyA based	17 (50)	39 (50)	0.801
AZA based	28 (82.4)	68 (87.2)	0.344
MMF based	4 (11.8)	10 (12.8)	0.573
Rejection in 90 days Post CMV	6 (17.6)	1 (1.3)	<0.001
CMV within 90 days	17 (50)	2 (2.6)	<0.001
CMV Viral Load Median [IQR]	2000 [1950-3000]	400 [200-600]	<0.001

*-HLA Matching

- Good- 1 Haplotype
- Bad- 0 Haplotype

TAC-Tacrolimus; ATG Antithymocyte Globulin; AZA- Azathioprine; CyA- Cyclosporine; MMF-Mycophenolate Mofetil

Results

	Treated n=34	Not Treated n=78	p Value
Tissue Invasive Disease	1 (2.9)	1 (1.3)	0.517
Recurrent CMV Viremia	13 (38.2)	6 (7.7)	<0.001
Graft Outcome			
S. Creatinine at time of CMV	1.57 [1.37-1.81]	1.56 [1.27-1.84]	0.537
S. Creatinine at Last Follow-up	1.44 [1.21-1.92]	1.36 [1.12-1.77]	0.278
Last Follow-up (Median days from CMV)	854 [527-1189]	971 [608-1298]	-

Conclusion:

Viral load ≤3000 can safely be not treated in D+R+ living donor renal transplant recipients

Recurrent- Subsequent episode of CMV