Efficacy of low-dose Mycophenolate Mofetil in Tablet form with Tacrolimus in the early period after Kidney Transplantation

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INTRODUCTION

- Mycophenolate mofetil (MMF) has been used as an important constituent of low toxicity, calcineurin inhibitor sparing immunosuppression.
- We examined the efficacy and safety of MMF according to its different forms (tablet versus capsule) combined with immediate-release tacrolimus (BD) in kidney transplant recipients.

METHODS

- This multicenter, 26-week, randomized, open-label, parallel-group, Phase IV study was performed at seven sites in Korea to compare the efficacy and safety of the tablet form of MMF versus the capsule form of MMF in 156 kidney transplant recipients.
- Allograft function, the incidence of efficacy failure [biopsy-proven acute rejection (BPAR), death, graft loss, or loss to follow-up], and adverse events were compared.

RESULTS

Table 1. Baseline demographics and clinical characteristics (ITT population)*

Group	My-Rept® Tablet (N=77)	My-Rept® Capsule (N=78)	*P*
Recipient variables			
Age, year	45.8 ± 11.5	46.1 ± 10.8	0.857
Male recipient, n (%)	40 (52.0)	47(60.3)	0.297
Weight, kg	59.2 ± 10.8	63.5 ± 12.0	0.020
Height, cm	164.0 ± 8.4	165.9 ± 9.0	0.167
Kidney disease, n (%)			0.367
Glomerular Disease	25 (32.5)	24 (30.8)	
Diabetes Mellitus	12 (15.6)	18 (23.1)	
Hypertensive nephropathy	14 (18.2)	7 (9.0)	
Polycystic Disease	3 (3.9)	3 (3.9)	
Types of dialysis, n (%)			0.317
Hemodialysis	55 (71.4)	55 (70.5)	
CAPD	13 (16.9)	8 (10.3)	
PRA-ID class I (%)	8.4 ± 24.5	5.1 ± 17.0	0.395
PRA-ID class II (%)	9.2 ± 20.5	7.5 ± 15.3	0.617
Retransplantation, n (%)	7 (9.1)	5 (6.4)	0.532
Donor variables			
Age, year	45.1 ± 13.4	42.8 ± 13.6	0.281
Male donor, n (%)	37 (48.1)	49 (62.8)	0.064
Type of donation, n (%)			0.115
Living related	30 (39.0)	20 (25.6)	
Living unrelated	15 (19.5)	13 (16.7)	
Deceased	32 (41.6)	45 (57.7)	
Degree of HLA-A mismatch			0.006
0	10 (13.0)	22 (28.2)	
1	53 (68.83)	34 (43.6)	
2	14 (18.2)	22 (28.2)	

Table 2. The blood trough level of tacrolimus (ITT population)

Group	My-Rept® Tablet (N=77)	My-Rept® Capsule (N=78)	*P*
Blood trough level, ng/mL			
Week 1	6.8 ± 3.1	7.4 ± 3.4	0.238
Week 4	7.8 ± 3.7	7.7 ± 2.9	0.910
Week 12	6.8 ± 2.4	6.9 ± 2.4	0.910
Week 26	7.0 ± 2.9	7.3 ± 2.8	0.504
Dose, mg/day			
Week 1	6.0 ± 3.6	5.8 ± 2.9	0.680
Week 4	5.6 ± 3.1	5.6 ± 3.2	0.918
Week 12	4.8 ± 2.5	4.7 ± 2.5	0.808
Week 26	4.8 ± 2.8	4.2 ± 2.1	0.231

Table 3. The dose of MMF (ITT population)

Group	My-Rept® Tablet (N=77)	My-Rept® Capsule (N=78)	*P*
Dose, mg/day			
Week 1	1063.4 ± 291.9	1100.0 ± 296.4	0.454
Week 4	1115.9 ± 259.3	1105.3 ± 308.9	0.823
Week 12	1092.9 ± 273.1	1111.5 ± 307.3	0.702
Week 26	1052.6 ± 194.2	1155.6 ± 298.1	0.063

Table 4. Efficacy endpoints at 26 weeks post-transplant (ITT population)

Group	My-Rept® Tablet (N=77)	My-Rept® Capsule (N=78)	P
Efficacy failure	4 (5.2)	6 (7.7)	0.746
BPAR	3 (3.9)	6 (7.7)	0.346
Severity of rejection			
Grade IA	2	3	
Grade IB	1	4	
Grade IIA	0	0	
Grade IIB	0	1	
Grade III	0	0	
Treated rejection	3 (3.9)	6 (7.7)	0.346
Recurrent rejection	1 (1.3)	2 (2.6)	1.000
Delayed graft function	1 (1.3)	1 (1.3)	1.000
Graft loss	0 (0.0)	0 (0.0)	-

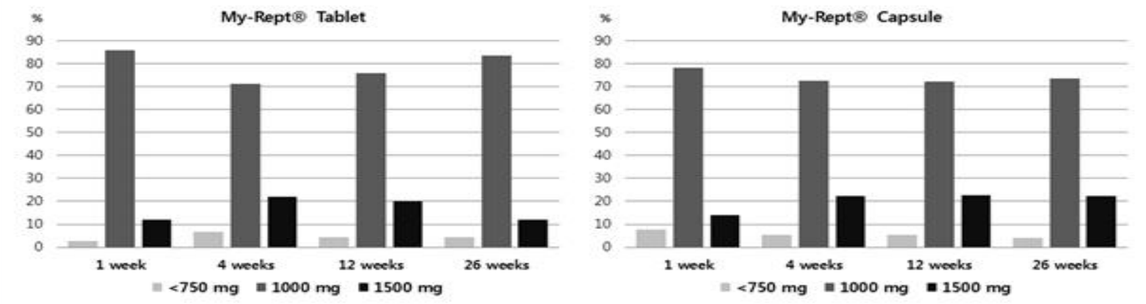

Figure 2. Proportion of recipients in each MMF dose at week 1 and at weeks 4, 12, and 26 post-transplant (ITT population). ITT, intention-to-treat.

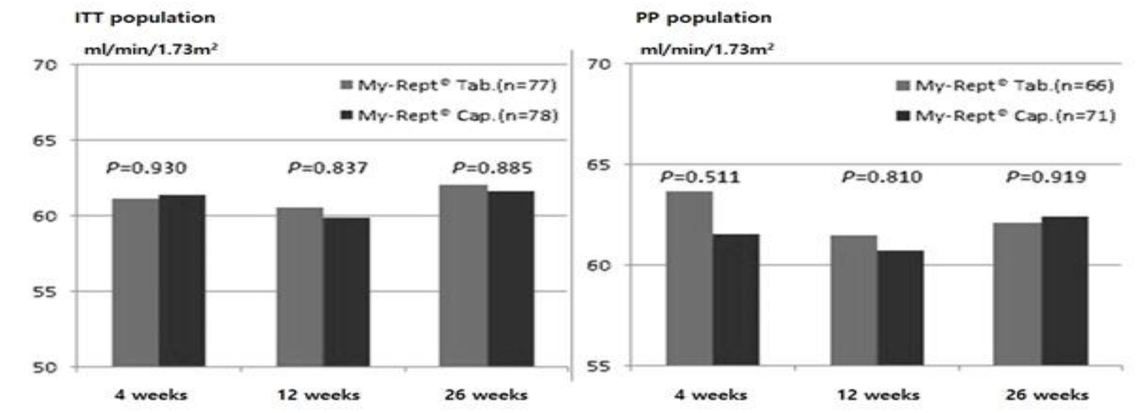

Figure 3. Graft renal function measured by eGFR (MDRD) (ITT and PP population). eGFR, estimated glomerular filtration rate; MDRD, modification of diet in renal disease; ITT, intention-to-treat; PP, per-protocol.

CONCLUSION

- **Low-dose MMF in tablet form combined with tacrolimus can be considered as an efficacious and safe IS regimen in the early period after KT.**