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= Abstract =

The Effect of Donor and Recipient Gender on Renal Allograft Survival

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The role of the donor and recipient gender have been a controversial point in the outcome of renal transplantation and the pathophysiologic mechanisms are not understood clearly. In order to evaluate the effect of gender on the renal graft survival, we reviewed our 400 consecutive living donor renal transplantation.

The patients were divided into four groups, Group 1; male donor and male recipient(n=152), Group 2; female donor and male recipient(n=61), Group 3; male donor and female recipient(n=135), and Group 4; female donor and female recipient(n=52). To estimate the transplant outcome between the groups, we analyzed patient and graft survival, acute tubular necrosis, BUN, creatinine and rejection episode for maximum 5 years after transplantation.

The level of BUN(34.7 ± 26.4 , 19.8 ± 6.4 , 30.5 ± 14.6 , 23.1 ± 10.5 in group 1,2,3,4 respectively) and serum creatinine(2.62 ± 2.3 , 1.48 ± 1.1 , 2.24 ± 1.2 , 1.65 ± 0.9 in group 1,2,3,4 respectively) were higher in male recipient groups regardless of donor gender. However, donor and recipient gender had no influence on post-graft blood pressure and acute tubular necrosis($p > 0.05$). Acute rejection episode was predominant at female donor graft than male donor graft(36.4% vs 30.1%). The 5 year graft survival in group 1,2,3,4 were 67.8, 67.2, 60.1, 72.7% and patient survival were 76.9, 75.6, 72.6, 80.5% in their orders. These results suggest that donor and recipient gender might play a role in the outcome of renal transplantation. The mechanism of these results must be analyzed by further evaluation using larger patient group.

Key Words: Renal transplantation, Gender, Graft survival

60 : 12 1 1998
62 : 12 1 1998
64 : 12 1 1998
66 : 12 1 1998

6 : 59
6 : 61
6 : 63
6 : 65

3, 5

SPSS package 7.5 release

Independent samples T test

Kaplan-Meier

Breslow test

0.05

1)

400

1

152

2

61

3

135

4

52

가

37.7±12.6

1

HLA

34.5±10.9

2

35.0±11.5

3

30.9

±8.8

4

31.3±9.4

32.9

±10.3

1

34.7±12.2

2

34.7

±12.5

3

41.3±12.1

4

40.9±12.5

(P > 0.05)(Table 1).

2)

가

1

3

가

34.7±26.4 mg/dl

2

19.8±6.4 mg/dl,

3

30.5±14.6 mg/dl,

4

23.1±10.5 mg/dl

가

(P < 0.05)(Table 2).

3)

가

가

가

가

1

3

가

가

가

(Table 3).

1982

11

1997

9

400

4)

1

2

3

4

1

4

(P <

0.05),

(Table 4).

1

, 6

, 1

5)

3

(Table 5)(Fig. 2, 3).

가

13 1 3 가
(2.0%), 2 4 (6.7%), 3 3 (2.2%), 가
4 3 (5.7%)가 가 가
14.9±23.8 ,
1 25.8±40.0 , 2 11.1±19.3 , 3 가
1.0±1.9 , 4 22.0±26.5 가
(P < 0.05). 가

6)

가 ,

33.2% 가 가 , 19.6%
2 가
(Fig. 1).

1
2.23±3.19 , 2 2.20±2.46 가
, 3 2.00±1.85 , 4 2.50±3.02 가
1 27.6±19.6 , 2
13.5±5.0 , 3 20.8±17.6 , 4 30.8
±24.4 가
가 , 가 가

7)

가

1 93.8±1.2%
, 5 67.1±2.8% ,
97 , 102 . 1 , 30
5
3
60.1±5.1% , 1 (67.8±4.6%) 2 (67.2±8.0%) , 1
4 (72.7±7.1%) .1)
가
1 96.9±0.9% 가 가 ,
, 5 76.0±2.6% 가
96 , 93 . 1 가
5 1 76.0±
4.2%, 2 75.6±7.4%, 3 72.6±4.6%, 4
80.5±5.9% 1 , 30

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Fig. 1. Comparison fo acute & chronic rejection between groups.

Fig. 2. Graft survival according to subdivision group. (P > 0.05)

Fig. 3. Patient survival according to subdivision group. (P > 0.05)

Table 1. Comparison of age between groups

	Group 1 (n=152)	Group 2 (n=61)	Group 3 (n=135)	Group 4 (n=52)
Recipient (32.9 ± 10.3)	34.5 ± 10.9	35.0 ± 11.5	30.9 ± 8.8	31.3 ± 9.4
Donor (37.7 ± 12.6)	34.7 ± 12.2	34.7 ± 12.5	41.3 ± 12.1	40.9 ± 12.5

Table 2. Comparison of BUN between groups(mg/dl)

Time	Group 1	Group 2	Group 3	Group 4	Total
1 Month	25.0 ± 16.2 (n=148)	25.3 ± 14.6 (n=59)	27.4 ± 15.4 (n=125)	27.9 ± 18.0 (n=50)	26.2 ± 16.0 (n=382)
6 Months	20.7 ± 12.4 (n=141)	18.8 ± 5.0 (n=49)	22.6 ± 10.2 (n=123)	20.6 ± 12.3 (n=50)	21.1 ± 10.8 (n=363)
1 Year	22.2 ± 9.8 (n=131)	20.6 ± 9.6 (n=41)	26.1 ± 15.2 (n=117)	20.7 ± 8.4 (n=46)	23.2 ± 12.0 (n=335)
3 Years	27.3 ± 21.0 (n=82)	23.8 ± 12.8 (n=22)	26.3 ± 11.5 (n=64)	20.7 ± 8.1 (n=32)	25.6 ± 16.0 (n=200)
5 Years	34.7 ± 26.4 (n=48)	19.8 ± 6.4 (n=13)	30.5 ± 14.6 (n=39)	23.1 ± 10.5 (n=20)	29.8 ± 20.0 (n=120)

Table 3. Comparison of serum creatinine levels between groups(mg/dl)

Time	Group 1	Group 2	Group 3	Group 4	Total
1 Month	1.48 ± 0.84 (n=148)	1.58 ± 1.79 (n=59)	1.77 ± 1.02 (n=124)	1.44 ± 0.64 (n=50)	1.59 ± 1.08 (n=381)
6 Months	1.49 ± 0.36 (n=141)	1.27 ± 0.31 (n=49)	1.78 ± 0.74 (n=123)	1.43 ± 0.68 (n=50)	1.55 ± 0.58 (n=363)
1 Year	1.69 ± 0.64 (n=130)	1.44 ± 0.63 (n=41)	1.97 ± 1.26 (n=116)	1.45 ± 0.81 (n=46)	1.72 ± 0.94 (n=333)
3 Years	2.02 ± 1.26 (n=82)	1.58 ± 0.92 (n=22)	2.03 ± 1.12 (n=63)	1.46 ± 0.72 (n=32)	1.88 ± 1.13 (n=199)
5 Years	2.62 ± 2.25 (n=47)	1.48 ± 1.05 (n=13)	2.24 ± 1.19 (n=39)	1.65 ± 0.97 (n=20)	2.21 ± 1.70 (n=119)

Table 4. Comparison of systolic & diastolic blood pressure between groups(mmHg)

Time	Group 1	Group 2	Group 3	Group 4	Total
Systolic					
1 Month	137.6 ± 17.2 (n=149)	129.9 ± 20.5 (n=58)	142.1 ± 19.8 (n=128)	133.1 ± 22.1 (n=51)	137.3 ± 19.7 (n=386)
6 Months	127.9 ± 15.1 (n=127)	121.2 ± 14.2 (n=46)	128.8 ± 15.3 (n=120)	122.5 ± 16.2 (n=46)	126.6 ± 15.4 (n=339)
1 Year	126.5 ± 17.0 (n=117)	124.3 ± 17.8 (n=36)	130.1 ± 16.8 (n=105)	125.4 ± 16.0 (n=43)	127.3 ± 16.9 (n=301)
3 Years	129.8 ± 16.6 (n=73)	121.4 ± 15.5 (n=16)	130.1 ± 16.8 (n=50)	126.7 ± 15.8 (n=27)	128.6 ± 16.5 (n=166)
5 Years	136.5 ± 23.9 (n=38)	127.4 ± 14.9 (n=11)	130.1 ± 16.3 (n=34)	130.8 ± 24.3 (n=13)	132.4 ± 20.6 (n=96)
Diastolic					
1 Month	86.9 ± 12.6 (n=149)	83.5 ± 12.7 (n=58)	87.8 ± 13.8 (n=128)	86.7 ± 14.7 (n=51)	86.6 ± 13.3 (n=386)
6 Months	83.0 ± 11.2 (n=127)	77.8 ± 11.8 (n=46)	83.7 ± 13.5 (n=120)	83.0 ± 13.0 (n=46)	82.5 ± 12.5 (n=339)
1 Year	81.3 ± 13.1 (n=116)	79.8 ± 11.1 (n=36)	84.1 ± 13.2 (n=105)	81.4 ± 10.2 (n=43)	82.1 ± 12.6 (n=300)
3 Years	82.8 ± 11.0 (n=73)	78.4 ± 15.5 (n=16)	83.8 ± 13.6 (n=50)	83.4 ± 15.6 (n=27)	82.8 ± 13.0 (n=166)
5 Years	85.9 ± 14.8 (n=38)	80.7 ± 8.9 (n=11)	86.6 ± 10.1 (n=34)	89.9 ± 15.9 (n=13)	86.1 ± 12.9 (n=96)

Table 5. Patient and graft survival by Kaplan-Meier method

	Group 1	Group 2	Group 3	Group 4
Patient survival (n=398)				
1YSR 96.9 ± 0.9%				
5YSR 76.0 ± 2.6%				
1YSR	97.3 ± 1.4	96.1 ± 2.7	97.0 ± 1.5	92.3 ± 3.7
5YSR	76.0 ± 4.2	75.6 ± 7.4	72.6 ± 4.6	80.5 ± 5.9
				(Breslow p=0.7361)
Graft survival (n=398)				
1YSR 93.8 ± 1.2%				
5YSR 67.1 ± 2.8%				
1YSR	95.2 ± 1.8	92.8 ± 3.5	92.5 ± 2.3	92.3 ± 3.7
5YSR	67.8 ± 4.6	67.2 ± 8.0	60.1 ± 5.1	72.7 ± 7.1
				(Breslow p=0.3790)