

Kidney Transplantation, Cardiovascular Risk, and Long-Term Dialysis in Japan

M. Tada^a, M. Hasegawa^{a,*}, H. Sasaki^b, M. Kusaka^b, R. Shiroki^b, K. Hoshinaga^b, T. Ito^c, T. Kenmochi^c, S. Nakai^d, K. Takahashi^a, H. Hayashi^a, S. Koide^a, and Y. Yuzawa^a

Departments of ^aNephrology, ^bUrology, and ^cOrgan Transplantation, Fujita Health University School of Medicine, Aichi, Japan; and ^dFujita Health University School of Health Science, Aichi, Japan

ABSTRACT

Background. The waiting time for deceased-donor kidney-only transplantations in Japan is long. Herein, we assessed the effect of length of dialysis on the outcomes of these patients.

Methods. We divided patients into 2 groups based on length of dialysis (Group A, <15 years, and Group B, ≥15 years), and compared the background and outcomes after kidney transplantation.

Results. Group A included 210 patients and Group B included 35 patients. In Group B, 20% of transplants were from living donors. Patient age ($P = .017$) and the hepatitis C infection rate ($P = .018$) were significantly higher in Group B, whereas hypertension ($P = .011$), diabetes ($P = .041$), and ABO-incompatibility rates ($P = .015$) were significantly higher in Group A. The 5- and 10-year survival rates were 97.0% and 95.4%, respectively, in Group A and 97.1% and 97.1%, respectively, in Group B. The 5- and 10-year graft survival rates were 95.4% and 84.8%, respectively, in Group A and 97.1% and 73.1%, respectively, in Group B. There were no significant differences between the groups in patient survival ($P = .74$) and graft survival ($P = .72$). The 5- and 10-year cardiovascular event-free survival rates were 95.9% and 92.4%, respectively, in Group A and 88.6% and 76.8%, respectively, in Group B. Cardiovascular event-free survival was significantly higher in Group A ($P = .038$). Cox stepwise multivariate analysis indicated that length of dialysis was a significant predictor of cardiovascular events (hazard risk, 1.007; range, 1.001–1.012; $P = .012$).

Conclusion. The prognosis after kidney transplantation is promising even after a long length of dialysis, although evaluation of the cardiovascular risk is needed in these cases.

A REVISED organ transplantation law was introduced in Japan on July 17, 2010. Prior to its introduction, organ transplantation from brain-dead donors was permitted only when the potential donor had previously agreed to the donation under such circumstances and when the potential donor's family assented to organ donation. At present, the organs of deceased individuals whose intentions regarding organ donation are unknown can be donated after consent is obtained from the families; as a result, the number of brain-dead organ donations has increased five-fold. Among the increased number of brain-dead donated organs, donated kidneys are reportedly preferentially provided to

patients undergoing pancreas-kidney transplantation. Accordingly, the number of kidney-only donations has decreased from 175 in 2009 to 101 in 2014 [1]. The mean waiting time until kidney transplantation was 15.6 years in 2010 [2]. Based on data from the Japanese registry for renal replacement therapy, the cumulative 10-year survival rate

*Address correspondence to Midori Hasegawa, Department of Nephrology, Fujita Health University School of Medicine, 1-98 Dengakugakubo Kutukaek-cho, Toyoake, Aichi 470-1192, Japan. E-mail: mhase@fujita-hu.ac.jp

Table 1. Patient Characteristics

	All Patients (n = 245)	Group A Dialysis Length <15 y (n = 210)	Group B Dialysis Length ≥15 y (n = 35)	P
Male (%)	65.7	66.3	62.3	.85
Age (y)	42.6 ± 1.3	41.6 ± 0.9	48.1 ± 2.0	.0017
Diabetes (%)	14.3	16.2	2.9	.041
BMI (kg/m ²)	20.1 ± 3.1	20.0 ± 3.1	20.0 ± 2.9	.75
Systolic BP (mm Hg)	138.4 ± 1.5	139.3 ± 1.6	131.2 ± 4.3	.046
Diastolic BP (mm Hg)	83.6 ± 0.9	84.6 ± 1.0	77.3 ± 2.7	.0062
Smoking (%)	34.3	35.7	25.7	.34
Previous CVD (%)	5.7	5.7	5.7	1.00
LVH	34.7	34.7	34.2	.96
Hypertension (%)	55.4	56.9	34.2	.011
HCV (%)	4.9	3.3	14.3	.018
Donor organ (%)				
Deceased kidney, heartbeat	1.6	0.48	8.6	<.0005
Deceased kidney, no heartbeat	46.5	41.0	80.0	<.0005
Living, related	26.9	34.0	2.9	<.0005
Living, unrelated	25.0	24.6	8.6	<.0005
Underlying disease (%)				
CGN	54.1	53.8	42.9	.82
Diabetic nephropathy	10.7	12.4	0	.03
Reflux nephropathy	3.7	3.8	2.9	.80
Nephrosclerosis	2.0	1.9	2.9	.69
ADPKD	1.6	1.4	2.9	.52
Other or unknown	27.9	26.7	48.5	.30
ABO-incompatible (%)	12.7	14.8	0	.015
HLA mismatch (A, B, DR)				
0	11.1	11.4	8.8	.44
1	17.6	19.0	8.8	.15
2	31.1	31.0	32.4	.87
3	21.7	21.0	26.5	.47
4	8.6	7.6	14.7	.17
5	7.0	7.1	5.9	.79
6	2.9	2.9	2.9	.98
Immunosuppression (%)				
Cyclosporine	51.7	53.2	42.4	.25
Tacrolimus	48.3	46.8	57.6	.25
Azathioprine	19.2	18.3	24.2	.42
MMF	18.3	19.2	12.1	.33
Mizoribine	39.2	39.4	36.4	.74
Everolimus	0.8	1.0	0	.57

Note: Data are presented as means ± standard deviation, unless otherwise noted.

Abbreviations: BMI, body mass index; BP, blood pressure; CVD, cardiovascular disease; LVH, left ventricular hypertrophy; HCV, hepatitis C virus; CGN, chronic glomerulonephritis; ADPKD, autosomal dominant polycystic kidney disease; HLA, human leukocyte antigen; MMF, mycophenolate mofetil.

was 36.0%, 15-year survival rate was 22.8%, and 20-year survival rate was 15.8% after dialysis for patients who began dialysis after 1983 [3]. In the present study, we aimed to assess the characteristics and outcomes of kidney transplantation in patients at our institute after a long or short period of dialysis.

PATIENTS AND METHODS

We retrospectively reviewed the clinical data from patients who underwent kidney transplantation in our hospital from October 1990 to March 2014. Of 263 patients, 18 patients for whom sufficient data were unavailable were excluded. The remaining 245 kidney transplantations represented 3 from donors with a heartbeat, 115 from donors without a heartbeat, and 127 from living donors. The data included recipient age, gender, cause of end-stage renal

disease, smoking history, left ventricular hypertrophy, blood pressure, history of cardiovascular disease, and hepatitis C virus infection. Allograft survival, recipient survival, and cardiovascular events were also reviewed. Because the mean waiting time before kidney transplantation in Japan was 15.6 years, we divided the patients into 2 groups based on their length of dialysis before kidney transplantation: Group A (length of dialysis <15 years) and Group B (length of dialysis ≥15 years). None of the patients were lost to follow-up, and the information on the prognosis was collected from the scheduled hospital visits. Cardiovascular events were defined as cardiovascular death, acute coronary syndrome, hospitalization for worsening heart failure, cerebral hemorrhage, and cerebral infarction. This study was conducted according to the Declaration of Helsinki and the Japanese National Ethical Guidelines, and was approved by the ethics committee of Fujita Health University School of Medicine.

Download English Version:

<https://daneshyari.com/en/article/6247003>

Download Persian Version:

<https://daneshyari.com/article/6247003>

[Daneshyari.com](https://daneshyari.com)