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**The Survival Following Kidney Transplantation According To Ethnicity Among
Kidney Transplant Recipients**

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Objectives : African American (AA) kidney transplant recipients experience disproportionately high rates of graft loss. The aim of this analysis was to establish and quantify the impact of the overall graft loss and patient death on the disparity in U.S. AA kidney transplant outcomes using an OrganProcurement and Transplantation Network (OPTN)/United Network for Organ Sharing (UNOS) data set that contains detailed baseline and longitudinal clinical data.

Methods : We performed a longitudinal cohort study of kidney transplant recipients using a data set created by UNOS, including 266,128 (70,215 AA, 195,913 non-AA) transplant patients enrolled between 1987 and December 2016. Multivariable analysis was conducted using 2-stage joint modeling of random and fixed effects of longitudinal data (linear mixed model) with time-to-event outcomes (Cox regression).

Results : A total of 195,913 non-AA recipients (73.6%) were compared to 70,215 AA (26.4%) recipients. The 10-year-graft survival of AAs in all eras was lower than that of non-AAs (31% in deceased kidney transplants (DKT) AA recipients vs. 42% in living kidney transplantation (LKT) non-AA recipients). The 10-year-patient survival of AAs with functioning grafts in all eras was similar to that of non-AAs. Multivariate Cox regression factors associated with patient survival with functioning grafts included acute rejection within 6 months, diabetes mellitus, and hypertension. A trend in pre-transplant recipient body mass index acting as a protective factor in patient survival of AAs with functioning grafts was noted, although it was not statistically significant.

Conclusions : AA kidney transplant recipients with functioning grafts experience a substantial disparity in graft loss but not death.

Table 1.jpg

Table 1. Patient characteristics according to era in kidney transplantation

Characteristics	Year 1987-1999 (n = 69,749)			Year 2000-2016 (n = 197,986)		
	Living KT	Deceased KT	Total	Living KT	Deceased KT	Total
Recipient Age (years)	42.2 ± 12.7**	46.2 ± 12.7#	45.6 ± 12.7*	48.2 ± 13.8**	52.8 ± 13.0#	51.2 ± 13.4*
Body Mass Index (kg/m ²)	25.4 ± 4.7	25.5 ± 4.6#	25.4 ± 4.6*	27.6 ± 5.1	27.8 ± 5.1#	27.7 ± 5.1*
Donor Age (years)	38.8 ± 11.0**	33.9 ± 17.0#	34.6 ± 16.4*	41.6 ± 11.6**	38.6 ± 16.7#	39.6 ± 15.2*
Cold ischemic time (hours)	1.9 ± 5.0	22.0 ± 9.7#	19.4 ± 11.5*	2.1 ± 5.0	18.1 ± 9.0#	13.5 ± 10.8*
Ethnicity (%)						
White people	65.5	58.1	59.2	64.2	43.6	50.5
African American	16.7	26.3	24.8	14.8	32.7	26.7
Hispanic people	12.1	10.0	10.3	14.6	15.2	15.0
Asian	3.6	3.8	3.8	4.8	6.3	5.8
Native American	0.9	0.9	0.9	0.7	1.1	1.0
Other	1.2	0.9	1.0	0.9	1.1	1.0
Donor type (%)						
Living	NA		14.9/10,393	NA		33.2/65,731
Deceased	NA		85.1/59,356	NA		66.8/132,255
Recipient gender (M/F %)	59.1/40.9**	61.5/38.5#	61.1/38.9	61.9/38.1**	60.8/39.2#	61.2/38.8
HLA full match (%)	13.4**	6.5#	7.4	7.4**	8.6#	8.1
Donor gener (M/F %)	42.6/57.4**	60.8/39.2#	58.1/41.9	39.2/60.8**	59.7/40.3#	52.9/47.1
AR within 6 months (%)	29.6**	35.5#	24.3*	8.3**	8.6#	6.5*
Recipient Age > 65 years (%)	4.2**	7.4	6.9*	12.6**	20.0	17.5*
Delayed graft function (%)	5.8**	24.3	21.2*	3.9**	25.5	18.2*
Comorbidity, no. (%)						
Peripheral vascular disease	4.3	4.7#	4.6*	4.3	5.6#	5.1*
Diabetes Mellitus	26.5**	28.1#	13.7*	28.4**	35.7#	33.0*
Hypertension	15.4**	21.0#	11.5*	17.3**	26.1#	23.1*
Donor Age > 65 years (%)	1.2	3.4#	3.1	1.9	4.0#	3.3
High (> 50%) PRA (%)	4.5	8.2#	7.7*	5.6	10.9#	9.2*
Body Mass Index (kg/m ² . %)						