

Results of a Kidney Transplant Program at a Clinic in the Colombian Caribbean Region – 2019 to 2022

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Background

Kidney transplantation is an effective treatment option and, in many cases, the best option for patients with end-stage renal disease. However, it still faces significant challenges that need to be addressed to improve the quality of life and survival of transplant recipients. Therefore, follow-up programs for these renal patients are essential. Hence, the objective of this study was to evaluate the outcomes of a kidney transplant program in a clinic in the Colombian Caribbean Region between the years 2019 and 2022.

Methods

An analytical cohort study was conducted, with a summary review of the variables, reported in means and standard deviations or medians and interquartile ranges depending on the normality of the variable. On the other hand, categorical variables were described using absolute and relative frequencies. The Student's t-test or Wilcoxon test was used depending on the normality of the variable. The Kruskal-Wallis test was employed to evaluate the medians obtained by patients in the Glomerular Filtration Rate (GFR) across four measurements. To analyze categorical variables, the exact Fisher test or the Chi-square test was used. A Kaplan-Meier analysis was performed to estimate graft survival according to donor type. A p-value of <0.05 was considered statistically significant. The R-CRAN software version 4.3.2 was used for statistical analyses.

Results:

Table 1 General characteristics of patients in the kidney transplant program.

Characteristic	n = 1641
Gender	
Female	63 (38%)
Male	101 (62%)
Origin	
Extramural	98 (60%)
Intramural	66 (40%)
Comorbidities	
Hypertension	127 (77%)
DM1	3 (1.8%)
DM2	26 (16%)
Hyperparathyroidism	13 (7.9%)
Hypothyroidism	7 (4.3%)
Graft Failure	
CN	1 (0.6%)
GEFS	4 (2.4%)
GNMP	7 (4.3%)
GNM	1 (0.6%)
NAH	33 (20%)
No Diagnosis (ND)	26 (16%)
No Lesions (NL)	8 (4.9%)
Donor Type	
Deceased	81 (49%)
Living	83 (51%)
Graft Loss	14 (8.5%)
Mortality	4 (2.4%)

Table 2 Clinical Profile of Renal Transplant Program Patients by Gender

Characteristic	Female (n= 63) ¹	Male (n= 101) ¹	p-value
Origin			0.065 ²
Extraintitutional	32 (51%)	66 (65%)	
Institutional	31 (49%)	35 (35%)	
Comorbidities			
Hypertension	49 (78%)	78 (77%)	>0.9 ²
DM1	2 (3.2%)	1 (1.0%)	0.040 ³
DM2	5 (7.9%)	21 (21%)	
Hyperparathyroidism	9 (14%)	4 (4.0%)	0.033 ³
Primary Renal Disease			0.5 ³
NAH	12 (19%)	21 (21%)	
ND	6 (9.5%)	20 (20%)	
NL	5 (7.9%)	3 (3.0%)	
GFR (ml/min/m2)	60 (36, 83)	46 (30, 79)	0.4 ⁴
Donor Type			0.2 ²
Deceased	35 (56%)	46 (46%)	
Living	28 (44%)	55 (54%)	
PRA (%) (Panel Reactive Antibody)			0.13 ³
0-10	59 (94%)	100 (99%)	
11-50	2 (3.2%)	1 (1.0%)	
51-100	2 (3.2%)	0 (0%)	
Graft Loss	4 (6.3%)	10 (9.9%)	0.4 ²
Mortality	1 (1.6%)	3 (3.0%)	>0.9 ³

Table 4 Glomerular Filtration Rate in Kidney Transplant Program Patients by Donor Type

Tipo de Donante	TFG (ml/min/m2)				p-value
	TFG_1	TFG_2	TFG_3	TFG_4	
Dead	51	54	55	52	0.071
Alive	58	60	57	59	0.081
p-value	0.072	0.082	0.252	0.012	NA

Figure 3 Glomerular Filtration Rate over Time by Donor Type (Cadaveric vs Living)

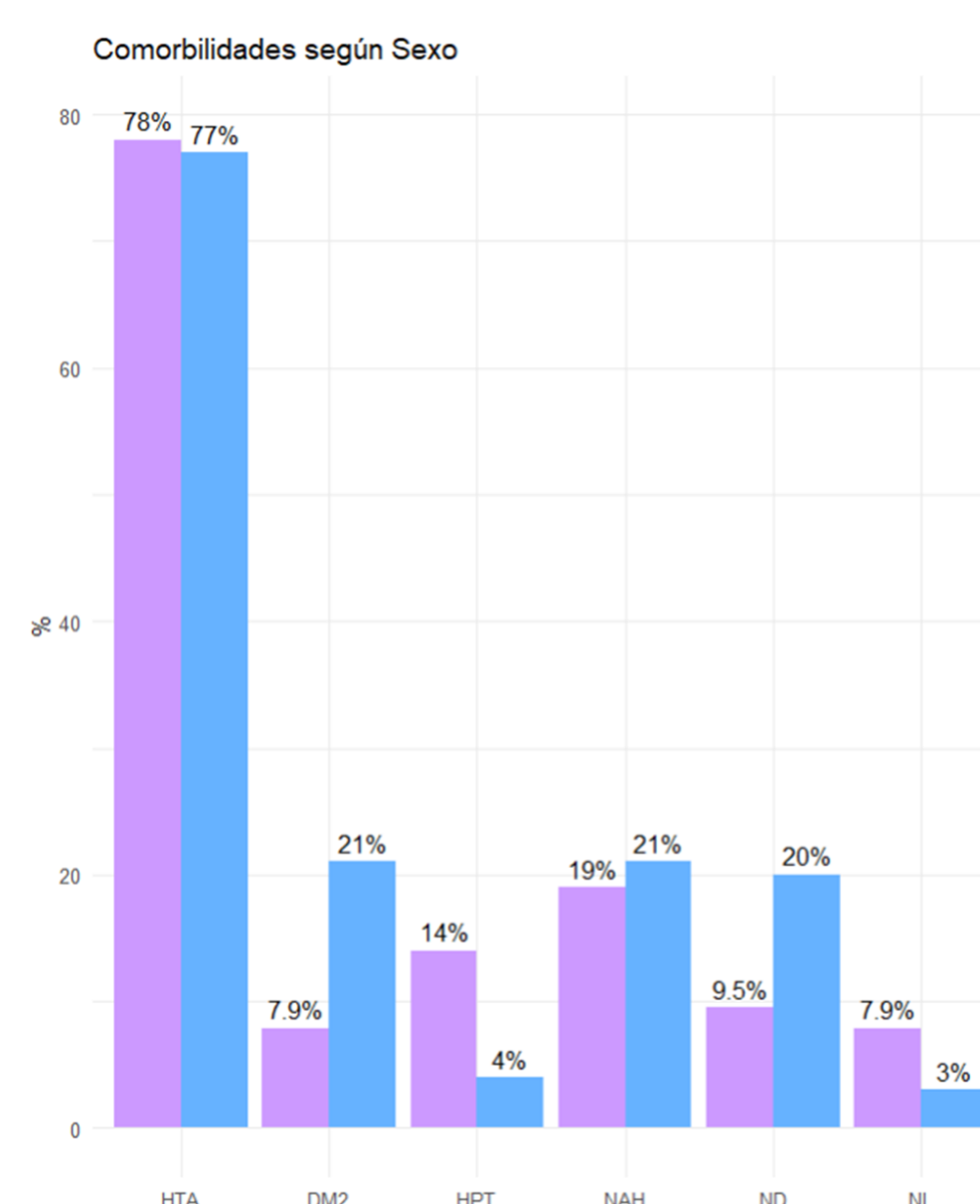
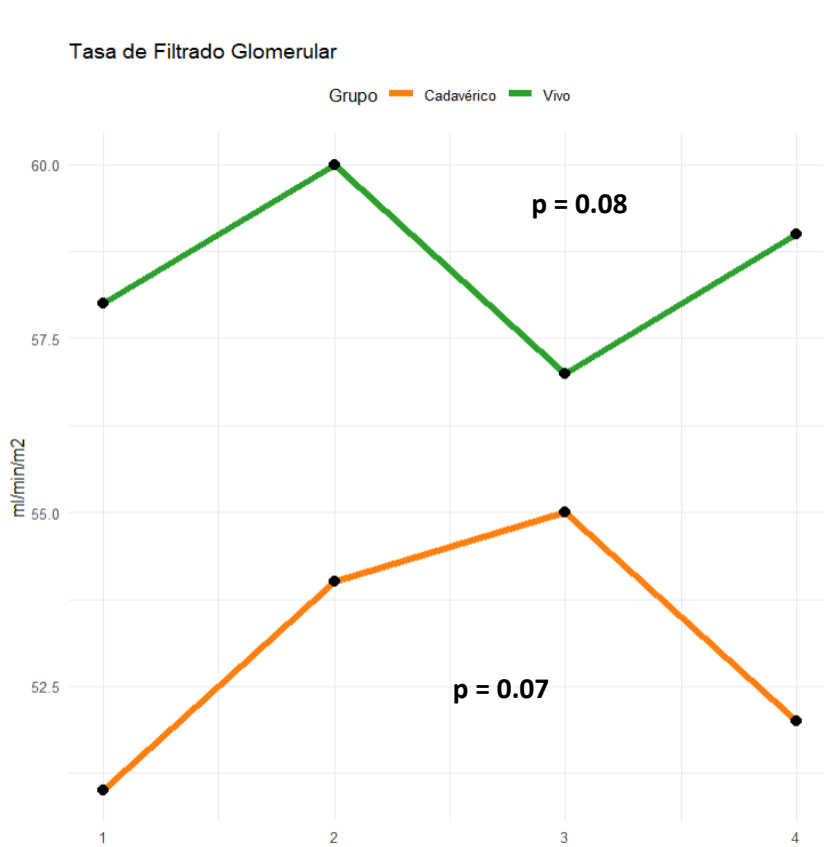


Figure 1 Distribution of comorbidities by sex.

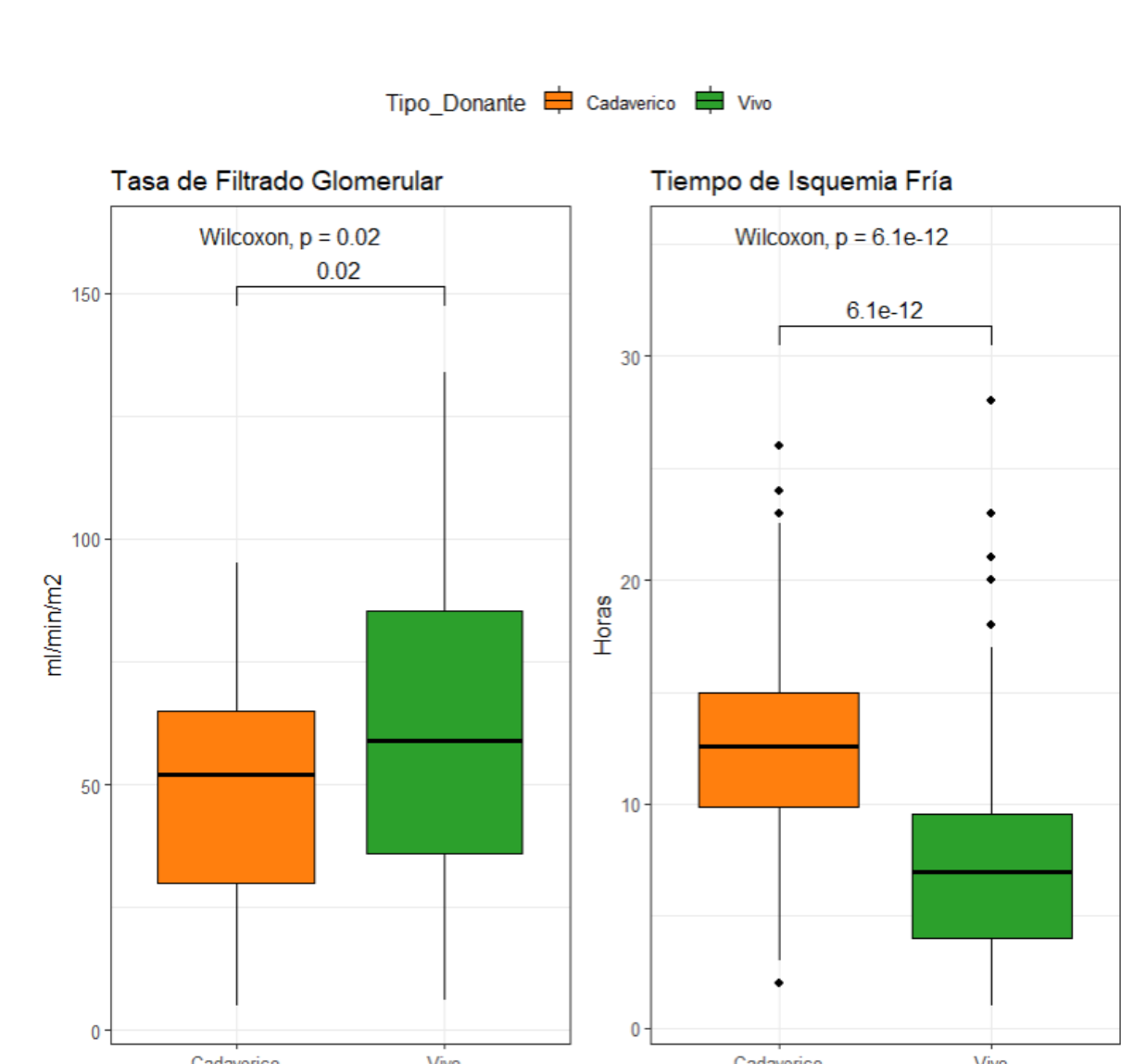


Figure 2 Glomerular filtration rate and cold ischemia time according to donor type.

Characteristic	Tipo de Donante		p-value
	Dead (n=81) ¹	Alive (n=83) ¹	
Gender			0.22
Female	35 (43%)	28 (34%)	
Male	46 (57%)	55 (66%)	
HTA	66 (81%)	61 (73%)	0.22
Diabetes			0.33
DM1	0 (0%)	3 (3.6%)	
DM2	12 (15%)	14 (17%)	
Primary Renal Disease			0.43
NAH	13 (16%)	20 (24%)	
ND	12 (15%)	14 (17%)	
NL	3 (3.7%)	5 (6.0%)	
GFR (ml/min/m2)	52 (5, 95)	59 (6, 134)	0.0204
Cool Isquemi (h)	12.5 (9.9, 15.0)	7.0 (4.0, 9.5)	<0.0014
PRA (%)			>0.93
0-10	79 (98%)	80 (96%)	
11-50	1 (1.2%)	2 (2.4%)	
51-100	1 (1.2%)	1 (1.2%)	
HLA-A (# Identity)			0.72
1	14 (67%)	15 (71%)	
2	7 (33%)	6 (29%)	
HLA-B (# Identity)			>0.93
1	12 (92%)	12 (92%)	
2	1 (7.7%)	1 (7.7%)	
HLA-DR (# Identity)			0.53
1	21 (95%)	12 (86%)	
2	1 (4.5%)	2 (14%)	
Graft Loss	7 (8.6%)	7 (8.4%)	>0.92
Mortality	1 (1.2%)	3 (3.6%)	0.63

Table 3 Clinical characteristics of patients in the kidney transplant program according to donor type.

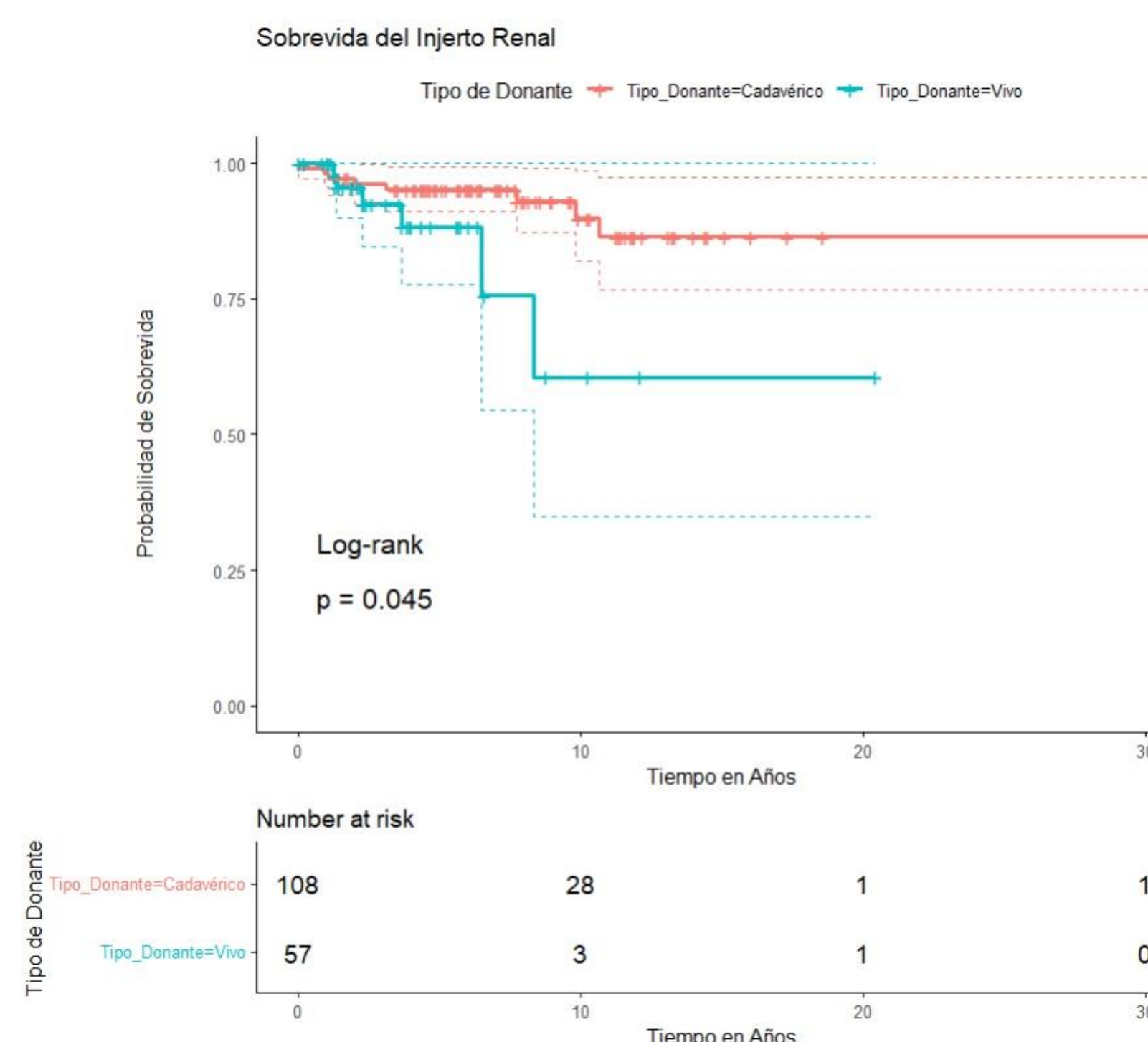


Figure 4 Kidney graft survival curve

Conclusion

The 10-year graft survival was notably higher in patients who received transplants from deceased donors, emphasizing the importance of this source of organs in the transplant program. This indicates that the management of kidney transplants in the Colombian Caribbean Region should be improved and optimized with the aim of benefiting a greater number of patients in the future.