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Supplementary Material:

Table S1. Distribution of vital signs among COVID-19 tested patients

Vital signs	Cases	Controls			P-value		
	COVID-19 +/-KTR N=32	COVID-19 +/-Non-KTR N=3181	COVID-19 -/KTR N=224	COVID-19 -/Non-KTR N=24083	P1	P2	P3
Peak							
Systolic	191.5 (176.5,214)	162 (146,182)	168.5 (153,185.5)	157 (141,175)	<.001	<.001	<.001
Diastolic	104 (96,124)	94 (86,107)	96 (88,106)	92 (84,101)	0.001	0.003	<.001
Heart Rate	115.5 (96,130)	109 (96,125)	101.8 (90.3,120.5)	102 (90,116.5)	0.277	0.024	0.006
Temperature	101.3 (100.4,102.8)	101.1 (99.8,102.7)	99.5 (99,100.8)	99.1 (98.7,99.9)	0.257	<.001	<.001
Median							
Systolic	130.8 (127,141)	122 (113.5,133)	132 (121.5,146.5)	124.5 (114,137)	<.001	0.896	0.004
Diastolic	68.5 (60.5,76.3)	70.5 (65,76)	74 (68,80.3)	71 (65,77.5)	0.385	0.013	0.161
Heart Rate	79.5 (69.5,83)	80 (72,88)	78.5 (70,85.5)	78 (70,88)	0.201	0.532	0.519
Temperature	98.3 (98.1,98.8)	98.3 (98.1,98.7)	98.2 (98,98.4)	98.1 (97.9,98.4)	0.768	0.028	0.003
Nadir							
Systolic	87 (62.5,104.5)	94 (82,103)	101 (90,112)	99 (91,109)	0.190	0.009	0.002
Diastolic	42.5 (30,59.5)	51 (42,58)	54 (46,62)	54 (48,61)	0.042	0.003	0.001
Heart Rate	55 (44.5,60.5)	59 (52,66)	61 (55,67)	61 (55,69)	0.009	<.001	<.001
Temperature	96.8 (96.2,97.3)	97 (96.4,97.4)	97.2 (96.8,97.4)	97.2 (96.8,97.5)	0.086	0.006	0.001

KTR, kidney transplant recipient.

P-values were obtained using the Kruskal Wallis test. Values in red represent statistically significant differences.

P¹ tests the difference between COVID-19 positive KTR and COVID-19 positive non-KTR, P² tests the difference between COVID-19 positive KTR and COVID-19 negative KTR, P³ tests the difference between COVID-19 positive KTR and COVID-19 negative non-KTR.

Table S2. Associations between COVID-19 positive KTR and Ferritin as compared to COVID-19 positive non-KTR

	Median (IQR) of marker	Beta Coefficient (95% CI)	Beta Coefficient (95% CI)*
	Ferritin (ng/mL)		
COVID-19 positive non-KTR	553 (256,1035)	reference	reference
COVID-19 positive KTR	1412 (747.5,1748.5)	804.4 (238.3, 1370.6)	878.7 (310.1, 1447.3)

Significant beta coefficients are highlighted in red and are interpreted as follows: Among COVID-19 positive KTR, ferritin on average was significantly higher by 879 ng/mL as compared to COVID-19 positive non-KTR, after adjusting for level of comorbidity.

*Adjusted for Elixhauser score

Table S3. Associations between COVID-19 positive KTR and hospital complications as compared to COVID-19 negative KTR

	Event Rate	Univariable OR (95% CI)	Multivariable* OR (95% CI)
Medical ICU Admission			
COVID (-) Transplant (+)	55/224	1 (ref)	1 (ref)
COVID (+) Transplant (+)	11/32	1.60 (0.73, 3.55)	1.67 (0.73, 3.85)
Requiring Ventilation			
COVID (-) Transplant (+)	20/224	1 (ref)	1 (ref)
COVID (+) Transplant (+)	11/32	6.12 (2.62, 14.32)	5.99 (2.40, 14.97)
Vasopressor Use			
COVID (-) Transplant (+)	37/224	1 (ref)	1 (ref)
COVID (+) Transplant (+)	13/32	3.46 (1.57, 7.61)	3.75 (1.59, 8.84)
AKI			
COVID (-) Transplant (+)	51/224	1 (ref)	1 (ref)
COVID (+) Transplant (+)	15/32	2.99 (1.40, 6.41)	2.43 (1.08, 5.45)
Hospital Mortality			
COVID (-) Transplant (+)	5/224	1 (ref)	1 (ref)
COVID (+) Transplant (+)	8/32	14.60 (4.42, 48.19)	13.98 (3.90, 50.15)

AKI, acute kidney injury; ICU, intensive care unit; KTR, kidney transplant recipient.

Values in red represent statistically significant associations.

*Adjusted for Elixhauser score, Black race and baseline eGFR.

Table S4 Associations between COVID-19 positive KTR and hospital complications as compared to COVID-19 negative non-KTR

	Event Rate	Univariable OR (95% CI)	Multivariable* OR (95% CI)
Medical ICU Admission			
COVID (-) Transplant (-)	5455/28103	1 (ref)	1 (ref)
COVID (+) Transplant (+)	11/32	2.18 (1.05, 4.53)	1.45 (0.70, 3.05)
Requiring Ventilation			
COVID (-) Transplant (-)	1382/28103	1 (ref)	1 (ref)
COVID (+) Transplant (+)	11/32	11.6 (5.66, 23.78)	7.39 (3.58, 15.27)
Vasopressor Use			
COVID (-) Transplant (-)	3246/28103	1 (ref)	1 (ref)
COVID (+) Transplant (+)	13/32	5.25 (2.59, 10.65)	4.18 (2.05, 8.52)
AKI			
COVID (-) Transplant (-)	2358/28103	1 (ref)	1 (ref)
COVID (+) Transplant (+)	15/32	8.15 (4.06, 16.34)	4.58 (2.21, 9.49)
Hospital Mortality			
COVID (-) Transplant (-)	806/28103	1 (ref)	1 (ref)
COVID (+) Transplant (+)	8/32	11.29 (5.06, 25.21)	6.31 (2.77, 14.37)

AKI, acute kidney injury; ICU, intensive care unit; KTR, kidney transplant recipient.

Values in red represent statistically significant associations.

*Adjusted for Elixhauser score, Black race and baseline eGFR.

Table S5 Type and timeline of kidney transplantation and induction therapy in SARS-CoV-2 positive kidney transplant recipients

Details of transplantation in SARS-CoV-2 positive KTR	Median (IQR) or n(%) Total n=32
Deceased donor kidney transplantation	25 (78%)
Time on dialysis (years)	11 (9.5, 16)
Time from Transplant to COVID-19 diagnosis (years)	7 (5, 10)
Induction therapy at time of transplantation	
Thymoglobulin	20 (63%)
Alemtuzumab	7 (22%)
Basiliximab	4 (9%)
Steroids	1 (3%)

Table S6: Comparison of Tacrolimus levels in kidney transplant recipients who are SARS-CoV-2 positive with and without outcomes

Outcome (Yes)	Outcome (No)	p-value
Requiring Ventilation		
6.3 (4.9, 7.8) n=12	9.4 (8.1, 10.0) n=20	0.0198
Requiring Vasopressors		
6.25 (4.85, 7.45) n=13	9.85 (8.5, 11.0) n=19	<0.001
ICU admission		
6.9 (4.9, 7.8) n=11	9.55 (7.5, 11) n=21	0.023
AKI		
9.1 (6.2, 11) n=15	7.9 (6.7, 10) n=17	0.838
Mortality		
6.25 (5.10, 10.45) n=8	9.1 (7.3, 10) n=24	0.212