

Respiratory and gastrointestinal COVID-19 phenotypes in kidney transplant recipients

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Supplementary Material

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Supplementary Table 1. Baseline characteristics and outcomes of all registered Spanish kidney transplant recipients with Covid-19 (n=427)

Male, n (%)	278 (65.1)
Age (yr), median [IQR]	62 [52, 70]
Age \geq 65 yr, n (%)	178 (41.7)
Time from KT to Covid infection (months), median [IQR]	70 [28.7, 148.5]
Time from KT to Covid infection \leq 24 months, n (%)	96 (22.5)
Baseline immunosuppressive treatment (of 317 patients)	
Prednisone, n (%)	238 (55.7)
Tacrolimus, n (%)	272 (63.7)
MPA, n (%)	229 (53.6)
mTORi, n (%)	73 (17.1)
ACEIs treatment, n (%)	60 (14.1)
ARBs treatment, n (%)	110 (25.8)
ACEIs or ARBs treatment, n (%)	163 (38.2)
COVID-19 clinical picture:	
Asymptomatic, n (%)	10 (2.3)
Fever, n (%)	345 (80.8)
Cough, expectoration and/or rhinorrhea, n (%)	309 (72.4)
Dyspnea, n (%)	190 (44.5)
Pneumonia, n (%)	343 (80.3)
Digestive symptoms (sickness, vomiting, diarrhea), n (%)	140 (32.8)
Lymphopenia, n (%)	341 (80)
Hospitalization, n (%)	392 (91.8)
Ventilator support, n (%)	78 (18.3)
ICU admission, n (%)	51 (11.9)
Severity¹, n (%)	110 (25.8)
COVID-19 treatment	
Lopinavir/ritonavir, n (%)	151 (35.4)
Azithromycin, n (%)	223 (52.2)
Hydrochyloroquine, n (%)	372 (87.1)
Tocilizumab or anakinra, n (%)	64 (15)
Glucocorticoids, n (%)	185 (43.3)
Interferon, n (%)	19 (4.4)
Outcomes	
Follow-up time (days), median [IQR]	25 [14, 33]
Recovery, n (%)	225 (52.7)
Deaths, n (%)	103 (24.1)
Awaiting for an outcome, n (%)	99 (23.2)

KT: kidney transplantation, IQR: interquartile range, MPA: mycophenolic acid, mTORi: mTOR inhibitors, ACEI: angiotensin converting enzyme inhibitors, ARBs: angiotensin receptor blockers, ICU: intensive care unit

¹ ICU admission or ventilator support, or requiring ICU admission or ventilator support even if they were denied.

Supplementary Table 2. Baseline characteristics of the KT patients with COVID-19 who died or recovered.

Variable	n=328
Male, n (%)	214 (65.2)
Age (yr), median [IQR]	62 [51, 70]
Age \geq 65 yr, n (%)	133 (40.5)
Time from KT (months), median [IQR]	72 [28, 145.5]
Time from KT \leq 24 months, n (%)	74 (22.6)
Baseline immunosuppressive treatment (of 268 patients)	
Prednisone, n (%)	203 (75.7)
Tacrolimus, n (%)	228 (85.1)
Mycophenolate, n (%)	191 (71.3)
mTOR inhibitors, n (%)	63 (23.5)
ACEIs treatment, n (%)	47 (14.3)
ARBs treatment, n (%)	83 (25.3)
Fever, n (%)	272 (82.9)
Cough, expectoration and/or rhinorrhea, n (%)	244 (74.4)
Dyspnea, n (%)	149 (45.4)
Pneumonia, n (%)	260 (79.3)
Digestive symptoms, n (%)	102 (31.1)
Lymphopenia, n (%)	264 (80.5)
Hospitalization, n (%)	300 (91.5)
Ventilator support, n (%)	60 (18.3)
ICU admission, n (%)	32 (9.8)
Severity ¹ , n (%)	89 (27.1)
COVID-19 treatment	
Lopinavir/ritonavir, n (%)	119 (36.3)
Azithromycin, n (%)	171 (52.1)
Hydroxychloroquine, n (%)	290 (88.4)
Tocilizumab, n (%)	44 (13.4)
Glucocorticoids, n (%)	142 (43.3)
Outcome	
Recovery, n (%)	225 (68.6)
Death, n (%)	103 (31.4)
Time (days) to death or recovery, median [IQR]	26 [14, 33]

KT: kidney transplantation, IQR: interquartile range, ACEI: angiotensin converting enzyme inhibitors, ARBs: angiotensin receptor blockers. ¹ ICU admission or ventilator support or requiring ICU admission or ventilator support even if they were denied.

Supplementary Table 3. Multivariate Cox regression analysis for death after COVID-19 in kidney transplant recipients (age as continuous variable).

	Exp (β)	<i>P</i> value	95% CI	
Age	1.110	.000	1.086	1.135
Digestive symptoms	.577	.034	.347	.959
Pneumonia	3.640	.001	1.683	7.871
Months after kidney transplantation	.999	.632	.997	1.002

Supplementary Figure 1. Patients with COVID-19 according to post-transplant time.

