

reference group. The mortality ratio was statistically significantly different in two groups.

Table 1. Demographic characteristics and comorbidities of patients with and without CKD.

	Total (n = 58,970)	Do not have CKD (n = 58,041, 98%)	Do have CKD (n = 929, 2%)	p-value
Age, years old	52 (±21)	51 (±21)	65 (±16)	<0.001
Age category, n (%)				<0.001
≤34 y.o.	13,294 (22)	13,230 (23)	64 (7)	
35 - 50 y.o.	11,763 (20)	11,673 (20)	90 (10)	
51 - 70 y.o.	22,751 (39)	22,373 (39)	378 (41)	
≥71 y.o.	11,162 (19)	10,765 (18)	397 (42)	
Gender, n (%)				0.062
Female	34,957 (59)	34,434 (59)	523 (56)	
Male	24,013 (41)	23,607 (41)	406 (44)	
Acute myocardial infarction, n (%)				<0.001
No	57,343 (97)	56,535 (97)	808 (87)	
Yes	1,627 (3)	1,506 (3)	121 (13)	
Diabetes, n (%)				<0.001
No	53,779 (91)	53,112 (92)	667 (72)	
Yes	5,191 (9)	4,929 (8)	262 (28)	
Hypertension, n (%)				<0.001
No	43,459 (74)	43,251 (75)	208 (22)	
Yes	15,511 (26)	14,790 (25)	721 (78)	
Congestive heart failure, n (%)				<0.001
No	55,140 (94)	54,543 (94)	597 (64)	
Yes	3,830 (6)	3,498 (6)	332 (36)	
Cerebrovascular disease, n (%)				<0.001
No	55,897 (95)	55,163 (95)	734 (79)	
Yes	3,073 (5)	2,878 (5)	195 (21)	
Outcome, n (%)				<0.001
Alive	56,708 (96)	55,867 (96)	841 (91)	
Died	2,262 (4)	2,174 (4)	88 (9)	

People of elderly age, male gender, having CKD, AMI, diabetes, hypertension, CHF, and CVD had higher odds of death according to unadjusted logistic regression (Table 2). After adjustment for the abovementioned predictors, age, male gender, CKD, diabetes, and CVD showed higher risks of mortality and remained statistically significant.

Table 2. Association between socio-demographic and medical characteristics and in-hospital mortality of patients.

Variable	Unadjusted model		Model 1		Model 2	
	OR [95% CI]	p-value	OR [95% CI]	p-value	OR [95% CI]	p-value
Age category (≤34 y.o. (ref))						
35 - 50 y.o.	5.87 [3.94; 8.74]	<0.001	5.73 [3.85; 8.54]	<0.001	5.64 [3.79; 8.40]	<0.001
51 - 70 y.o.	18.5 [12.8; 26.8]	<0.001	18.6 [12.8; 26.8]	<0.001	16.9 [11.6; 24.5]	<0.001
≥71 y.o.	54.9 [38.1; 79.6]	<0.001	55.4 [38.3; 80.2]	<0.001	48.3 [33.3; 70.2]	<0.001
Gender (Male vs Female (ref))	1.64 [1.51; 1.79]	<0.001	1.78 [1.63; 1.94]	<0.001	1.81 [1.66; 1.98]	<0.001
Chronic kidney disease	2.69 [2.15; 3.36]	<0.001	1.56 [1.24; 1.96]	<0.001	1.39 [1.10; 1.76]	0.006
Acute myocardial infarction	2.78 [2.35; 3.29]	<0.001			1.12 [0.91; 1.37]	0.277
Diabetes	2.71 [2.44; 3.02]	<0.001			1.47 [1.32; 1.66]	<0.001
Hypertension	2.74 [2.52; 2.97]	<0.001			1.09 [0.98; 1.20]	0.112
Congestive heart failure	2.45 [2.16; 2.77]	<0.001			0.93 [0.79; 1.09]	0.412
Cerebrovascular disease	2.43 [2.12; 2.78]	<0.001			1.16 [0.99; 1.35]	0.050

Conclusions: This research evaluated hospitalization outcomes of coronavirus patients with and without CKD in Almaty, Kazakhstan. The effect of socio-demographic factors and comorbidities on mortality was analyzed. Although CKD can be prevented and treated to a large extent, multimorbid conditions, especially viruses causing a pandemic, can alter the situation. Therefore, it is necessary to establish a comprehensive disease management strategy for unexpected infectious disease outbreaks.

No conflict of interest

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CHALLENGES OF TREATING COVID 19 IN PATIENTS WITH CHRONIC RENAL FAILURE UNDER LIMITED CONDITIONS



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Introduction: Relevant clinical studies indicate a significantly poorer outcome in patients with advanced renal failure during Covid 19 probably due to significantly slower clearance of pro-inflammatory cytokines produced during infection but also in the presence of significantly higher cardiovascular comorbidity in these patients.

Methods: We present the characteristics of patients with chronic renal failure (CRF) who were treated for Covid 19 bronchopneumonia at the Temporary Covid 19 hospital "Stark Arena" Belgrade, during 2020/2021. In this period we have treated about 5200 patients with Covid 19 bronchopneumonia under limited conditions.

Results: We analyzed a records of 466 patients with a history of CRF: 261 male (56.01%) and 67 female 67(43.99%), mean age 75 ± 11.14 years (40-88 years), 297 of them (63.73%) suffered from high blood pressure, 154 patients (33.05%) suffered from diabetes mellitus and 114 patients (24.46%) had both diseases. The mean value of sO2 at admission was 92±4.45%, CRP 87±99.7mg/l, Interleukin-6 61±33.4 pg/ml, hemoglobin (Hgb)126±14.22g/l, urea 12±7.53 mmol /l, creatinine 137.43±121.22µmol/l, glomerular filtration rate (GFR) 47.44ml/min/1.73m². Patients were treated according to the current protocol where 305 out of than (65.45%) also received an interleukin-6 receptor blocker (Tocilizumab 8-16 mg/kg). A total of 452 patients (96.99%) after successful treatment of bronchopneumonia were discharged for home treatment with average creatinine values of 116±31.32µmol/l and GFR 56.13ml/min/1.73m², while 14 patients (3.01%) due to the worsening of their general condition, were transferred to a higher - level health institution, from where they were further discharged without necessity for chronic dialysis treatment. There were no lethal outcomes.

Parameters on admission:

sO2	CRP	Interleukin-6	Hgb	urea	creatinine	GFR
92±4.45%	87±99.7 mg/l	61±33.4 pg/ml	126±14.22 g/l	12±7.53 mmol/l	137.43±121.22 µmol/l	47.44ml/min/1.73m ²

Parameters at discharge:

sO2	urea	creatinine	GFR
97±2.21%	8±3.23 mmol/l	116±31.32µmol/l	56.13ml/min/1.73m ²

Conclusions: Advanced renal failure is a significant risk factor for adverse clinical outcome during Covid 19. In our group majority of patients were with moderate CRF who had a successful end-therapeutic outcome, but a significant percentage of them required the use of Tocilizumab (without adverse effects). The verified improvement of GFR at discharge is most likely a consequence of the remediation of factors (inflammation, dehydration, nephrotoxicity of drugs etc.) which led to worsening of preexistent CRF. Regardless of the existing degree, all patients with renal failure require serious monitoring during Covid 19.

No conflict of interest

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OUTCOMES AND CLINICAL CHARACTERISTICS OF ESKD PATIENTS WITH COVID-19 IN A PERUVIAN HOSPITAL IN THE TWO FIRST WAVES



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Introduction: Patients on dialysis are a great risk of acquiring COVID-19 infection, with higher mortality rates. We compared the outcomes and mortality of first and second waves of COVID-19 in dialysis patients hospitalized in a Peruvian hospital

Methods: This is an observational, analytic, retrospective cohort study of patients with ESKD on KTS hospitalized from March 2020 to June 2021. Peru's first pandemic wave started from March to August 2020 and the second wave began from December 2020 to June 2021. Patient

demographics and clinical features were collected from the Hospital Nacional Alberto Sabogal Sologuren electronic medical record. We evaluated the survival in the first year post-COVID-19 of discharged patients

Results: Out of the 310 ESKD patients who had COVID-19, 61.94% (192) were male, and the mean age was 63.75 years. The most frequent comorbidities were arterial hypertension in 86.8% (269), diabetes mellitus in 46.1% (143), obesity in 5.2% (16), and cardiovascular disease in 10.3% (32). There were 1.94% on peritoneal dialysis and 98.06% on hemodialysis.

COVID-19 diagnosis was by molecular PCR in 16.1%, antigen swab test in 17.42%, serological test in 35.81%, and radiological clinical criteria in 30.65%. At admission, the average oxygen saturation was 88.94% (40-99) with a PaFi of 245.52% (38-681). 56.77% (176) used reservoir masks, 26.8% binasal cannulas, and 2.9% mechanical ventilators.

The average hospitalization time was 11.67 days and the average number of dialysis sessions was 3.78 (0-25). Up to 25.81% (80) of the patients had an indication for ICU management, however, only 3.23% (10) received it. Up to 48.71% (151) died during hospitalization, of which 90% (9) were in the ICU and 75% (60) had an indication for ICU management but did not receive it. The risk of death of patients with an ICU indication is 1.9 higher than those who did not have an indication. (CI: 1.57 - 2.38)

Patients were admitted with intermediate ISARIC4C scores of 8.1% (25), high 53.5% (166), and very high 37.7% (117). Of which 20% (5) died with an intermediate score, 39.2% (65) with a high score, and 68.4% (80) with a very high score. (p=0.001)

67.5% (102) of the deceased were male (p=0.047) and the risk of death for males versus females is 1.59 (CI: 1.004 - 2.536).

In the first wave, 176 ESKD patients who had COVID-19 were registered between March and August 2020. In the second wave, 134 ESKD patients were registered between December 2020 and May 2021. Mortality between the first and second waves was 50% (88) in the first and 45.5% (61) in the second (p=0.43).

Regarding the evolution after one year of patients who were discharged (159), mortality was 22% (35), with the main causes being cardiovascular diseases (28.5%), and acute respiratory failure (25.7%), and infectious (22.8%).

Tabla Nº 1: Outcomes of patients with COVID-19 infection

Variable	Overall (n=310)	survived (n=159)	deceased (n=151)	p value
Age N(%)	63.75 (20-95)	60.86 (20-86)	66.79 (28-95)	0,001
Male sex N(%)	192 (61.9%)	90 (56.6%)	102 (67.5%)	0.047
Hypertension N(%)	269 (86.8%)	133 (83.6%)	136 (90.1%)	0.095
Diabetes N(%)	143 (46.1%)	65 (40.9%)	78 (51.7)	0.057
Cardiovascular disease	32 (10.3%)	20 (12.6%)	12 (7.9%)	0.18
Score ISARIC4C				
Score intermedio N(%)	25 (8.1%)	20 (12.4%)	5 (3.4%)	
Score alto N(%)	166 (53.5%)	103 (64%)	63 (42.3%)	
Score muy alto N(%)	117 (37.7%)	37 (23%)	80 (53.7%)	0,001

Conclusions: COVID-19 had devastating outcomes for vulnerable groups such as ESKD patients. In our study, we demonstrated higher mortality (48.1%), particularly in the male sex. The ISARIC4C score represented a higher mortality risk with a higher score level.

No conflict of interest

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IMPACT OF COVID-19 PANDEMIC ON MANAGEMENT OF PEDIATRIC KIDNEY TRANSPLANT RECIPIENTS

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Introduction: Children appear to be less commonly and less severely affected by COVID-19 than adults, accounting for 1% to 5% of all COVID-19 cases. The COVID-19 pandemic has challenged pediatric kidney transplant programs to provide safe and consistent care during this difficult and unprecedented time.



Methods: So far during this pandemic, best practices being delivered to pediatric kidney transplant patients are based on available information from published literature and expert opinions. The key areas of pediatric kidney transplant care that may be affected by the COVID-19 pandemic include transplant activity, outpatient clinic activity, monitoring, multidisciplinary care, medications (immunosuppression and others), patient/family education/support, school and employment, and care of pediatric kidney transplant patients who are COVID-19 positive

Results: It has been presumed that children with chronic kidney disease and/or those who take immunosuppressants may be at increased risk for complications from COVID-19 infection; however, available evidence has now suggested that immunosuppressed children with kidney transplant are not at increased risk of severe COVID-19 disease. Clinicians should remain aware that transplant recipients may present with atypical symptoms. In addition, because evidence-based reports to support specific adjustments to immunosuppressive medications in relation to COVID-19 are not yet available, decisions on reduction or discontinuation of immunosuppression should be on a case-by-case basis for kidney transplant recipients who are COVID-19 positive.

Conclusions: Reports to support evidence-based management of pediatric kidney transplant patients during the COVID-19 pandemic are lacking; therefore, expert opinion and available knowledge and experience remain subject to biases.

No conflict of interest

WCN23-1041

IMMUNOGENICITY AND SAFETY OF HOMOLOGOUS CHADOX1 NCOV-19 AND HETEROLOGOUS PRIME-BOOST OF CORONAVAC AND CHADOX1 NCOV-19 AMONG KIDNEY TRANSPLANT RECIPIENTS: AN OBSERVATIONAL PROSPECTIVE COHORT STUDY



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Introduction: Kidney transplant recipients (KTRs) are at risk for substantial morbidity and mortality during COVID-19 infection. Vaccination for this group of patients is recommended. However, immunogenicity and safety data after COVID-19 vaccination among KTRs remains limited.

Methods: We conducted an observational prospective trial involving KTRs at Chiang Mai University hospital, Chiang Mai, Thailand. The participants were received homologous ChAdOx1 nCoV-19 (AZ-AZ), or the heterologous prime-boost of CoronaVac®, followed by AZ (SV-AZ). The immunogenicity was assessed by measuring antibodies against the S1 receptor-binding domain (anti-RBD), and SARS-CoV-2 surrogate virus neutralization test (sVNT) at specific timepoints. The primary outcome was the seroconversion rate of sVNT at day 28 after complete vaccination. The secondary outcomes were the seroconversion rate of sVNT at day 28 after the first dose of vaccination, the level of sVNT and anti-RBD at specific timepoints, and the adverse events of each vaccine regimen.

Results: A total of 18 KTRs were recruited. Among those, 13 (72.2%), and 5 (27.8%) patients were received AZ-AZ, and SV-AZ regimen, respectively. The seroconversion rate of sVNT at day 28 after the second dose were 23.1%, and 20.0% for AZ-AZ, and SV-AZ, respectively (P>0.99). The level of sVNT and the level of anti-RBD at day 28 after the first and at day 28 after the second dose were not different between groups (Figure 1). There were no serious adverse events reported in any vaccine groups. However, AZ-AZ showed sign of tubular dysfunction demonstrated by increasing of fractional excretion of magnesium after complete course of vaccination which correlated to the trend <https://>