

Supplemental Material

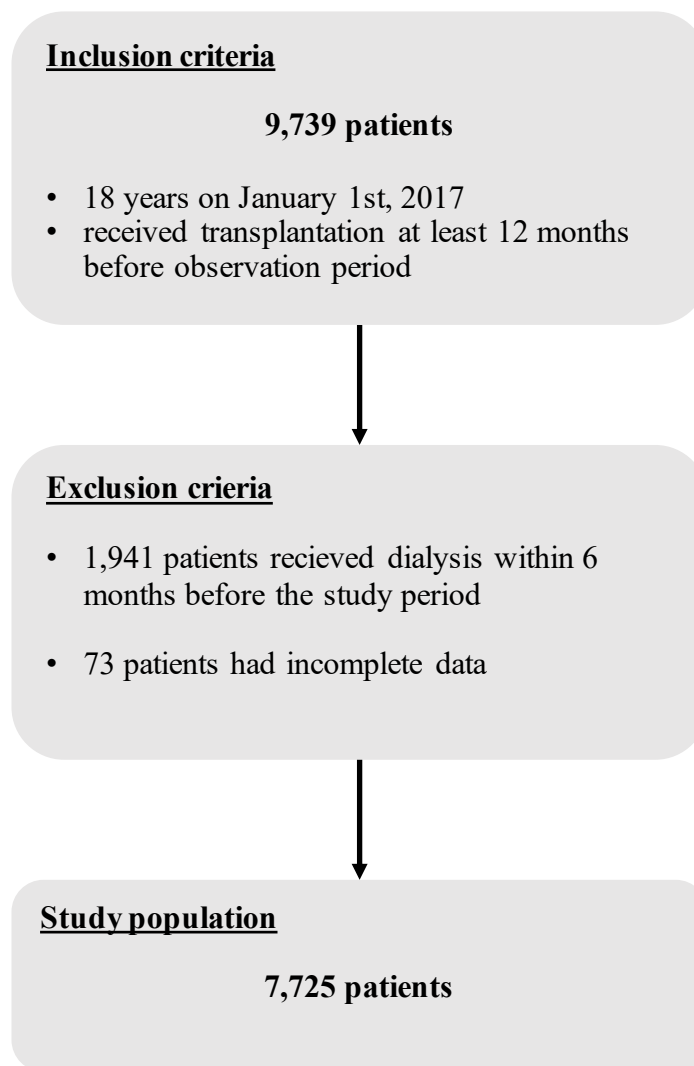
Supplemental Figure 1. Patient disposition.

Supplemental Figure 2. Characteristics of hospitalized COVID-19 cases.

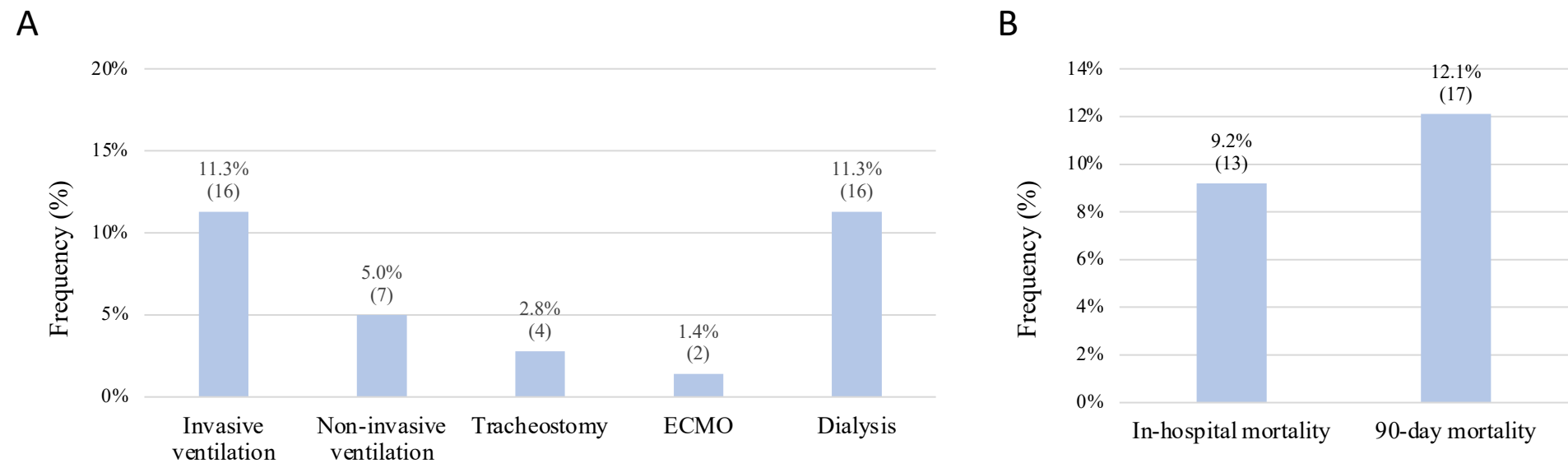
Supplemental Table 1. Definition of procedures, diagnoses, and drugs.

Supplemental Table 2. Characteristics of patients with and without hospitalized COVID-19.

Supplemental Figure 1. Patient disposition.



Supplemental. Figure 2. Characteristics of hospitalized COVID-19 cases.



(A) Procedures within hospital stays. (B) In-hospital mortality and mortality within 90 days after admission. ECMO: Extracorporeal membrane oxygenation.

Supplemental Table 1. Definition of procedures, diagnoses, and medication.

Characteristics	Defining Codes
Procedures during hospital stay	Operationen- und Prozedurenschlüssel (OPS)
Intensive care treatment	8-980, 8-98f
Extracorporeal membrane oxygenation	8-852.0, 8-852.2, 8-852.3, 8-852.4, 8-852.5, 8-852.6
Tracheostomy	5-311, 5-312
Non-invasive ventilation	8-706
Invasive ventilation	8-701, 8-704, 5-311, 5-312
Dialysis	8-853, 8-854, 8-855, 8-857
Reason for hospital stay	ICD-10-GM (principal diagnosis)
Pulmonary infections	J00-06, J12-18, J20-22, J09-11
Urogenital infections	N39.0
Cardiovascular diseases	I21, I22, I25.2, I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5– I42.9, I43.x, I50.x, P29.0, I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9, I10.x, I11.x, I12.x, I13.x, I15.x
Allograft rejections	T86.1
Sepsis	A40-41
Hospitalized COVID-19	ICD-10-GM (secondary diagnosis)
COVID-19	U07.1, U07.2
Medication	WHO ATC/DDD Index 2019/2020 (German modification)
Statin	C10AA, C10B, C10BX
Calcium antagonist	C08CA
ACE-I	C09A, C09B
ARB	C09C, C09D
Antiplatelet agent	B01AC
Mycophenolate	L04AA06
Tacrolimus	L04AD02
Steroids	H02AB, H02B
Cyclosporine	L04AD01
Everolimus	L01XE10, L04AA18
Sirolimus	L04AA10
Azathioprine	L04AX01
Belatacept	L04AA28

ACE-I: angiotensin-converting-enzyme-inhibitors, ARB: angiotensin II receptor blockers, ATC: Anatomical Therapeutic Chemical Classification System, COVID-19: coronavirus disease 2019, DDD: defined daily doses, ICD-10-GM: International Classification of Diseases 10. Revision German Modification, OPS: Operationen und Prozedurenschlüssel, WHO: World Health Organization.

Suppl. Table 2. Characteristics of patients with and without hospitalized COVID-19.

Characteristics	Non-COVID-19 (n = 7,374)	COVID-19 (n = 129)	P value
Sex, no (%)			
Men	4,582 (62.1)	77 (59.7)	0.570
Women	2,792 (37.9)	52 (40.3)	
Age, years			
Mean (SD)	56.9 (13.1)	61.6 (12.7)	< 0.001
Median (IQR)	58 (49-67)	63 (53-70)	
Comorbidities, no (%)			
Hypertension	6,294 (85.4%)	112 (86.8%)	0.640
Coronary artery disease	1,674 (22.7%)	41 (31.8%)	0.015
Diabetes	1,437 (19.5%)	36 (27.9%)	0.017
Obesity	1,388 (18.8%)	27 (20.1%)	0.544
Congestive heart failure	1,114 (15.1%)	28 (21.7%)	0.039
Chronic liver disease	1,089 (14.8%)	29 (22.5%)	0.015
Chronic obstructive pulmonary disease	592 (8%)	17 (13.2%)	0.034
Asthma	454 (6.2%)	11 (8.5%)	0.268
Cancer	156 (2.1%)	5 (3.9%)	0.171
Dementia	80 (1.1%)	5 (3.9%)	0.003
Medication, no (%)			
Belatacept	123 (1.7%)	4 (3.1%)	0.151
Tacrolimus	5,072 (68.8%)	75 (58.1%)	0.086
Cyclosporine	1,446 (19.6%)	27 (20.9%)	0.477
Mycophenolate	5,409 (73.4%)	71 (55.0%)	< 0.001
Azathioprine	245 (3.3%)	4 (3.1%)	1.000
Everolimus	418 (5.7%)	8 (6.2%)	0.669
Sirolimus	241 (3.3%)	4 (3.1%)	1.000
Steroids	4,498 (61.0%)	87 (67.4%)	0.017
ACE-I	2,074 (28.1%)	34 (26.4%)	0.963

ACE-I: angiotensin-converting-enzyme-inhibitors, COVID-19: coronavirus disease 2019, SD: standard deviation, IQR: inter-quartile ranges