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Supplementary appendix

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Supplementary Appendix

Paxlovid in immunocompromised, hospitalized patients with SARS-CoV-2 infection: a real-life study from Shanghai

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Table S1. Baseline characteristics of patients with or without prolonged viral elimination (>10d since diagnosis of SARS-CoV-2 infection) in a Paxlovid registry, April 7, 2022 to May 7, 2022, Renji Hospital South Campus, Shanghai

	Items	Viral elimination ≤10 days (n=28)	Prolonged viral elimination >10 days (n=86)	p
Epidemiology	Age (year)	63.25 (22.24)	70.91 (17.12)	0.114
	Gender/F n(%)	13 (46.4)	46 (53.5)	0.664
	Inactivated SARS-CoV-2 vaccine n(%)	14 (50.0)	13 (15.1)	0.001
	1 dose n(%)	1 (3.6)	0 (0)	/
	2 doses n(%)	8 (28.6)	7 (8.1)	/
	3 doses n(%)	5 (17.9)	6 (7.0)	/
	Initiation of Paxlovid since diagnosis(day)	4.43 (3.89)	8.48 (4.84)	<0.001
	Initiation of Paxlovid ≤ 5days since diagnosis, n(%)	21 (75.0)	26 (30.2)	<0.001
Disease Severity [#]	Non-severe	21 (75.0)	59 (68.6)	0.872
	Severe	6 (21.4)	20 (23.3)	/
	Critical	1 (3.6)	7 (8.1)	/
Comorbidity	Hypertension n(%)	12 (42.9)	37 (43.0)	1
	Diabetes Mellitus n(%)	3 (10.7)	18 (20.9)	0.274
	Coronary heart disease n(%)	5 (17.9)	13 (15.1)	0.768
	Cerebrovascular disease n(%)	7 (25.0)	30 (34.9)	0.364
	Chronic kidney disease n(%)	0 (0.0)	11 (12.8)	0.063
	IC n(%)	3 (10.7)	32 (37.2)	0.009
Laboratory Results	Leucocyte (10^9/L)	8.49 (16.13)	7.28 (4.51)	0.033
	Lymphocyte (10^9/L)	0.97 (0.52)	1.25 (0.63)	0.045
	Hemoglobin (g/L)	119.74 (25.28)	115.83 (25.50)	0.597
	Platelet (10^9/L)	177.74 (71.55)	200.07 (104.77)	0.280
	Alanine transaminase (U/L)	24.71 (30.47)	38.26 (69.30)	0.787
	Albumin (g/L)	35.26 (8.41)	34.44 (5.33)	0.125
	Creatinine (umol/L)	66.15 (23.05)	72.58 (43.56)	0.625
	Baseline ORF1ab Ct value	26.76 (7.89)	25.76 (7.66)	0.494
	Baseline N Ct value	25.89 (6.69)	25.11 (6.45)	0.449
Outcomes	Time to viral elimination (day) [†]	8.29 (1.51)	17.27 (5.51)	<0.001
	Death[*]	0 (0)	3 (3.50)	1

[#] Disease severity is defined by World Health Organization (WHO) guideline for COVID-19 [5].

[†] Viral elimination was defined as both negative for ORF1ab and N genes (Ct value ≥35 by real-time PCR) in two consecutive days. The second negative day was calculated as the time point of viral elimination.

[*] One patient died of respiratory failure attributed to COVID-19; the other two patients died of deterioration of underlying comorbidities (decompensated hepatic cirrhosis and heart failure, respectively).

Figure S1. A) Forrest plot of binary logistic regression analysis of patients with prolonged viral elimination (>10days since diagnosis of SARS-CoV-2 established by PCR). B) Changes of ORF1ab Ct values in immunocompromised patients with Paxlovid prescriptions within or beyond 5 days since diagnosis. Red and blue arrows indicate the average time to initiation of Paxlovid in two groups. C) Correlation of the timing to Paxlovid prescription and the duration of viral elimination among IC patients.
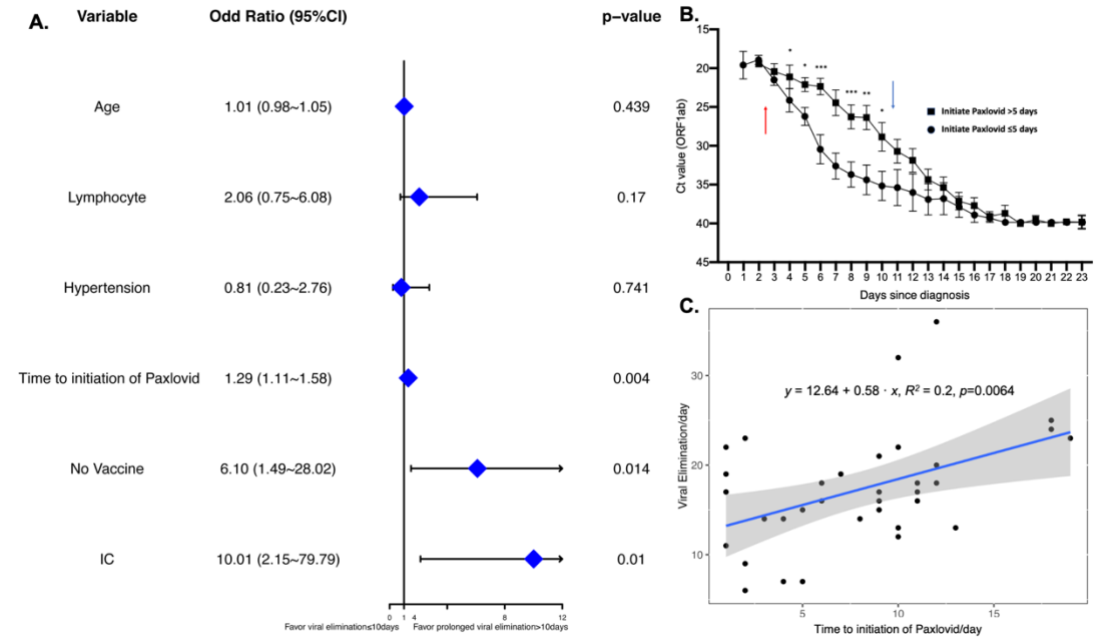
Table S2. Baseline characteristics of immunocompromised (IC) or non-IC patients in the Paxlovid registry

	Items	IC (n=35)	non-IC (n=79)	p
Epidemiology	Age (year)	65.66 (13.22)	70.52 (20.57)	0.043
	Gender/F n(%)	16 (45.7)	43 (54.4)	0.422
	Inactivated SARS-CoV-2 vaccine n(%)	7 (20.0)	20 (25.3)	0.637
	1 dose n(%)	0 (0)	1 (1.3)	/
	2 doses n(%)	5 (14.3)	10 (12.7)	/
	3 doses n(%)	2 (5.7)	9 (11.4)	/
	Initiation of Paxlovid since diagnosis (day)	8.00 (4.94)	7.25 (4.94)	0.312
	Initiation of Paxlovid ≤ 5days since diagnosis, n(%)	12 (34.3)	35 (44.3)	0.426
Disease Severity	Non-severe	25 (71.4)	55 (69.6)	0.338
	Severe	6 (17.1)	20 (25.3)	/
	Critical	4 (11.4)	4 (5.1)	/
Comorbidity	Hypertension n(%)	10 (28.6)	39 (49.4)	0.043
	Diabetes Mellitus (%)	4 (11.4)	17 (21.5)	0.295
	Coronary heart disease	2 (5.7)	16 (20.3)	0.055
	Cerebrovascular disease n(%)	8 (22.9)	29 (36.7)	0.194
	Chronic kidney disease (%)	6 (17.1)	5 (6.3)	0.090
Laboratory Results	Leucocyte (10^9/L)	9.68 (14.56)	6.62 (3.76)	0.264
	Lymphocyte (10^9/L)	1.22 (0.54)	1.17 (0.65)	0.469
	Hemoglobin (g/L)	113.89 (29.80)	118.05 (23.25)	0.691
	Platelet (10^9/L)	199.03 (111.21)	192.81 (92.23)	0.436
	Alanine transaminase (U/L)	36.17 (65.44)	34.50 (61.41)	0.412
	Albumin (g/L)	34.68 (5.17)	34.59 (6.48)	0.858
	Creatinine (umol/L)	64.37 (17.54)	74.04 (46.05)	0.872
	Baseline ORF1ab Ct value	24.61 (7.46)	26.63 (7.77)	0.115
	Baseline N Ct value	24.05 (5.97)	25.86 (6.66)	0.170
Outcome	Time to viral elimination (day)	17.29 (6.35)	14.08 (5.92)	0.005
	Viral elimination ≤ 10days n(%)	3 (8.6)	25 (31.6)	0.009
	Death	0 (0)	3 (3.8)	0.552

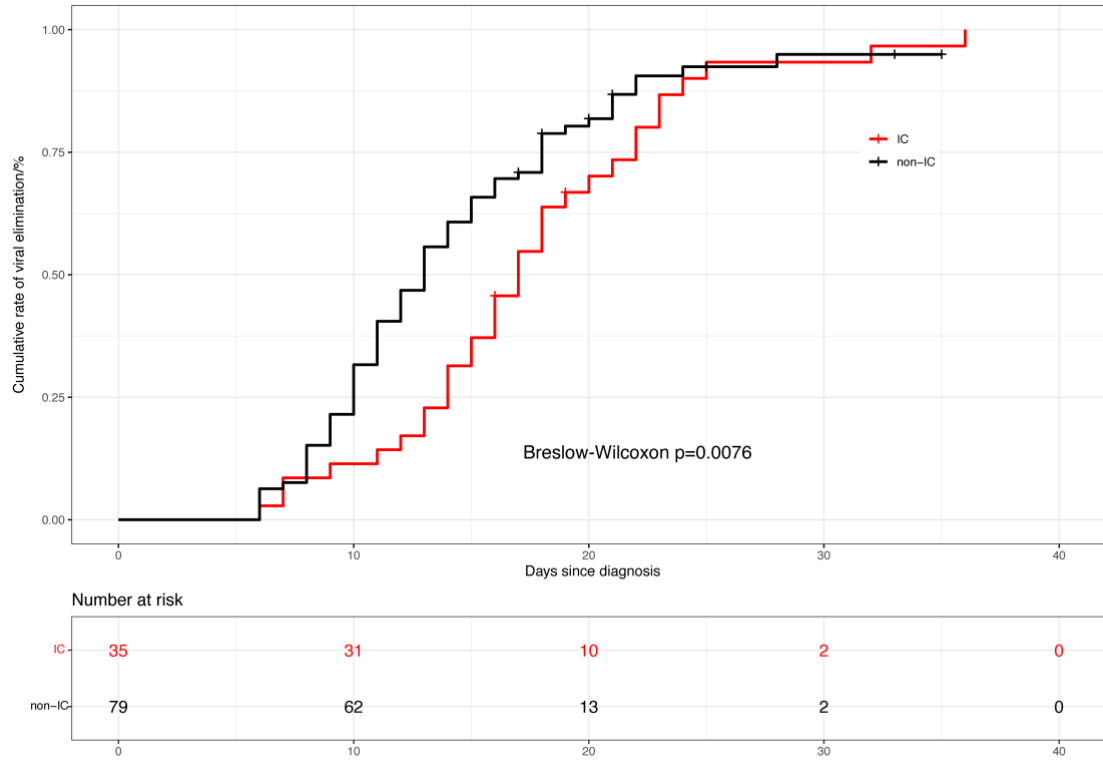Figure S2. Cumulative rate of viral elimination in IC or non-IC patients infected with SARS-CoV-2

Table S3. Baseline characteristics of IC patients with Paxlovid prescription within or beyond 5 days since the diagnosis of SARS-CoV-2 infection.

	Items	Paxlovid ≤ 5 days (n=12)	Paxlovid > 5 days (n=23)	p
Epidemiology	Age (year)	67.50 (12.92)	64.70 (13.55)	0.454
	Gender/F n(%)	5 (41.7)	11 (47.8)	1
	Inactivated SARS-CoV-2 vaccine n(%)	3 (25.0)	4 (17.4)	0.670
	1 dose n(%)	0 (0)	0 (0)	/
	2 doses n(%)	3 (25.0)	2 (8.7)	/
	3 doses n(%)	0 (0)	2 (8.7)	/
	Initiation of Paxlovid since diagnosis (day)	2.58 (1.56)	10.83 (3.49)	<0.001
Disease Severity	Non-severe	7 (58.3)	18 (78.3)	0.274
	Severe	2 (16.7)	4 (17.4)	/
	Critical	3 (25.0)	1 (4.3)	/
Comorbidity	Hypertension n(%)	2 (16.7)	0 (0.0)	0.111
	Diabetes Mellitus n(%)	5 (41.7)	5 (21.7)	0.258
	Coronary heart disease n(%)	1 (8.3)	3 (13.0)	1
	Cerebrovascular disease n(%)	4 (33.3)	4 (17.4)	0.402
	Chronic kidney disease n(%)	3 (25.0)	3 (13.0)	0.391
Laboratory Results	Leucocyte (10^9/L)	14.68 (24.36)	7.07 (3.19)	0.876
	Lymphocyte (10^9/L)	1.02 (0.45)	1.31 (0.56)	0.146
	Hemoglobin (g/L)	109.42 (28.81)	116.22 (30.67)	0.394
	Platelet (10^9/L)	219.50 (148.88)	188.35 (87.65)	1
	Alanine transaminase (U/L)	62.17 (107.39)	22.61 (17.06)	0.056
	Albumin (g/L)	35.94 (4.77)	33.99 (5.36)	0.265
	Creatinine (umol/L)	60.25 (14.84)	66.52 (18.74)	0.347
	Baseline ORF1ab Ct value	26.94 (8.23)	23.39 (6.90)	0.289
	Baseline N Ct value	25.87 (6.79)	23.11 (5.41)	0.289
Outcome	Time to viral elimination (day)	13.67 (5.84)	19.17 (5.87)	0.022
	Viral elimination ≤ 10days n(%)	3 (25.0)	0 (0)	0.034
	Death	0 (0)	0 (0)	/

Figure S3. Cumulative rate of viral elimination in IC patients with Paxlovid prescription within or beyond 5 days since diagnosis of SARS-CoV-2 infection