

Supplementary information includes Methods, 3 figures, 5 tables and 1 online material (questionnaire) which are available online.

Methods

Questionnaire

In accordance with the design principle of epidemiological questionnaire [1], we made the follow-up questionnaire to understand the subjective feelings of the COVID-19 convalescents to report their physical health 1 and 2 years after discharge (see the online data supplement). All participants (or legal guardians of minors) signed written informed consent. The questionnaire included baseline demographic information, comorbidities at the time of being confirmed, physical discomfort (compared to pre-illness), and modified British medical research council (mMRC) scores [2]. The questionnaire focused on post-recovery outcomes related to COVID-19, and healthy controls were not included in the survey. Both paper and electronic questionnaires were used. We checked the logic of the questionnaire, ensured the principles of accessibility, ease of handling and appropriate length, and conducted a pre-survey. In order to reduce the deviation, our interviewers have received strict training before conducting the survey.

Specimen quality assurance

The peripheral blood specimens from each donor were collected in a K2-EDTA tube (Tube 1), a lithium heparin tube (Tube 2) and a separate gel coagulation-promoting vacuum tube (Tube 3) by trained nurses. We participated in an external quality assessment organized by the National Center for Clinical Laboratories [3]. Additionally, our laboratory has been approved by the China National Accreditation Service for Conformity Assessment (CNAS MT0086). Two evaluation criteria, recruited healthy controls and normal reference ranges issued by testing institutions were set. The indicators that are significantly different from the healthy controls and have a high proportion deviation from the normal reference range will be focused on. When the abnormal proportion of healthy controls exceeds the normal reference range by more than 20%, the 5%-95% percentile range of healthy controls will be

used as the reference range [4].

Clinical laboratory tests

The complete blood count test was performed with tube 1 on a Sysmex XN- 3000 automated hematology analyzer (Sysmex Corporation, Kobe, Japan). The plasma in tube 2 were used to measure cardiac troponin T, cardiac troponin I, brain natriuretic peptide precursor, myoglobin and C-reactive protein by a Siemens Dimension EXL automatic chemiluminescence immunoassay analyzer (Siemens, Munich, Germany) and by a Cobas e601 hormone module (Roche Diagnostics, Basel, Switzerland). Other blood biochemical tests were performed with tube 3 by a Cobas c501 biochemistry module (Roche Diagnostics).

Analysis

We performed statistical analyses with GraphPad (GraphPad Software, version 8.0.2), R (R Foundation for Statistical Computing, version 4.0.3), and SAS (SAS Institute, University Edition). The descriptive results are reported as medians and interquartile ranges for continuous variables, and the categorical variables are presented as counts and percentages. The difference between patients with COVID-19 and controls was examined by Mann-Whitney U test to compare differences between any two groups. For the categorical variables, we compared the abnormal rate of each indicator between different groups by chi-square test or Fisher' s exact test when appropriate. Standard error of the mean was analyzed. Correlations were assessed using Spearman's Rank correlation coefficient (r). All tests were two tailed, and a P -value of less than 0.05 was considered statistically significant. Statistical significance was set as follows: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$; **** $P < 0.0001$.

References

1. Rothman KJ. Epidemiology: An Introduction [M]. 2nd ed. Oxford: Oxford University Press 2012.
2. Och A, Tylicki P, Polewska K, et al. Persistent post-COVID-19 syndrome in hemodialyzed patients-A longitudinal cohort study from the North of Poland. J Clin Med 2021;10(19):4451.
3. Kinns H, Pitkin S, Housley D, et al. Internal quality control: best practice. J Clin Pathol 2013;66(12):1027-32.
4. Kathayat G, Pokharel DR, Yadav NK, et al. Establishment of dry chemistry based reference intervals of renal function test parameters for the adult population of Kaski District, Nepal. BMC Nephrol 2021;22(1):331.

Fig. S1 Blood test results of the COVID-19 convalescents during 6 months, 1 year and 2 years follow-ups.

Fig. S2 Stratified analysis of related indicators of COVID-19 convalescents with different disease severity.

Fig. S3 Comparison of laboratory test indicators between COVID-19 convalescents who participated in continuous and complete follow-up.

Table S1: Characteristics of participants.

Table S2: Background diseases of COVID-19 convalescents.

Table S3: Blood cell count & liver and kidney related variables of the COVID-19 convalescents during 1 year and 2 years follow-ups.

Table S4: Lipid and myocardial related variables of the COVID-19 convalescents during 6 months, 1 year and 2 years follow-ups.

Table S5: Symptoms or characteristics of the COVID-19 convalescents who participated in continuous and complete follow-up.

Supplementary Material: Questionnaire for COVID-19 convalescents (in local language).

Fig. S1

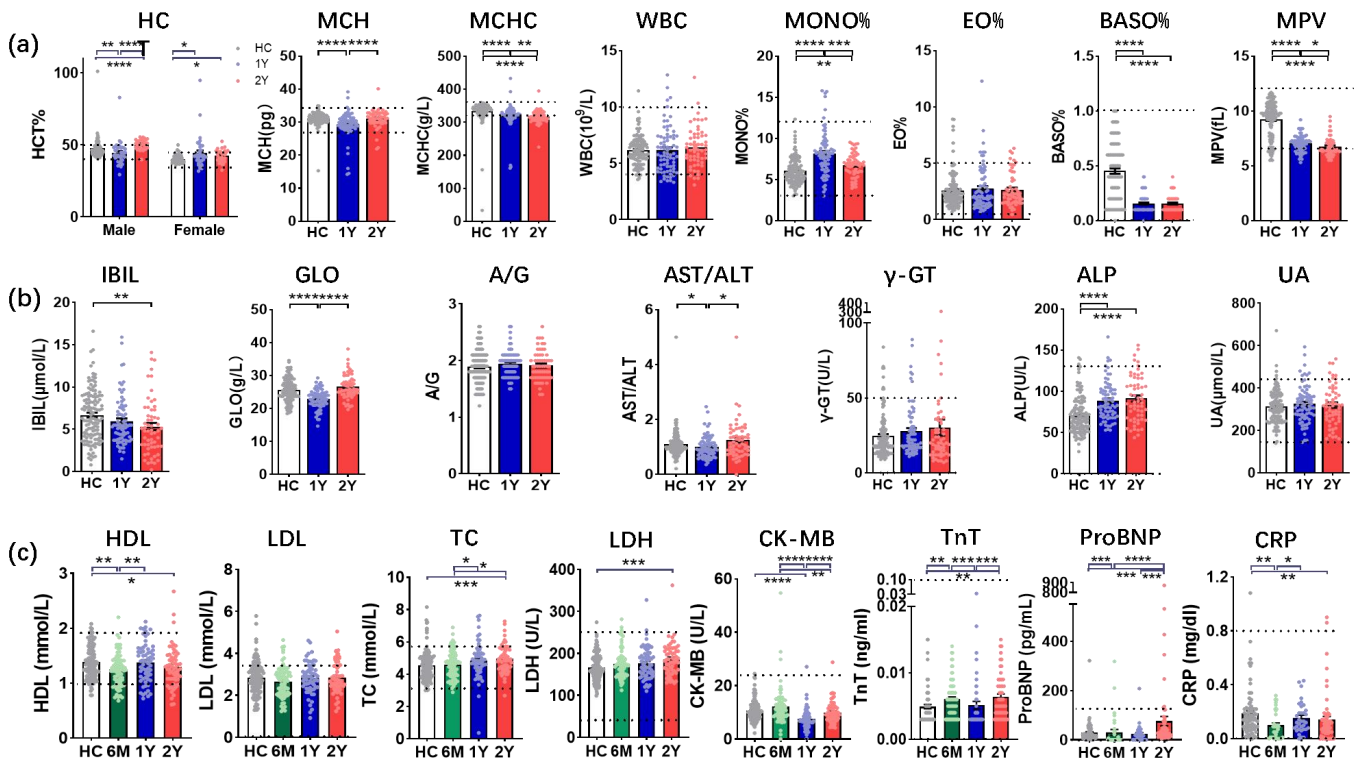


Fig. S1 Blood test results of the COVID-19 convalescents during 6 months, 1 year and 2 years follow-ups.

(a-b): Comparison of blood cell counts (a) and liver & kidney related variables (b) between 1-year and 2-year COVID-19 convalescents and healthy controls. HC: Healthy control (gray, $n = 125$). 1 Y: About 1 year post disease onset (blue, $n = 76$); 2 Y: About 2 years post disease onset (red, $n = 59$). (c) Lipid and myocardial related variables of 6-month, 1- and 2-year COVID-19 convalescents compared with health controls. 6 M: 6-month (green, $n = 34$ for ProBNP and CRP, $n = 76$ for the other indicators), 1-year (blue, $n = 34$ for ProBNP and CRP, $n = 63$ for the other indicators), 2-year COVID-19 convalescents (red, $n = 59$) and healthy controls (gray, $n = 75$ for TnT, ProBNP and CRP, $n = 125$ for the other indicators). Each point corresponds to one individual and the bar values represent mean and standard error of the mean. The double dashed line indicates the normal reference range issued by the testing institution. If it is a single dashed line, the reference boundary on the other side is 0. More than 25% (30.4%) of the healthy controls corresponding to the indicator HDL did not meet the reference range, so the normal range of the indicator was set as the 5%-95% percentile range of the healthy controls. Mann-Whitney U-test was used and two-tailed P -values were calculated. * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$; **** $P < 0.0001$. HCT, hematocrit; MCH, mean corpuscular hemoglobin; MCHC, mean corpuscular hemoglobin concentration; MONO, monocyte; EO, eosinophil; BASO, basophils; PLT, platelet; MPV, mean platelet volume; IBIL, indirect bilirubin; GLO, globulin; A/G, albumin/globulin; AST/ALT, aspartate aminotransferase/alanine aminotransferase ratio; γ -GT, gamma-glutamyl transferase; ALP, alkaline phosphatase; UA, uric acid; HDL, high-density lipoprotein

cholesterol; LDL, low-density lipoprotein cholesterol; TC, total cholesterol; LDH, lactate dehydrogenase; CK-MB, creatine kinase isoenzyme; TnT, troponin T; ProBNP, pro-brain natriuretic peptide; CRP, C-reactive protein.

Fig. S2

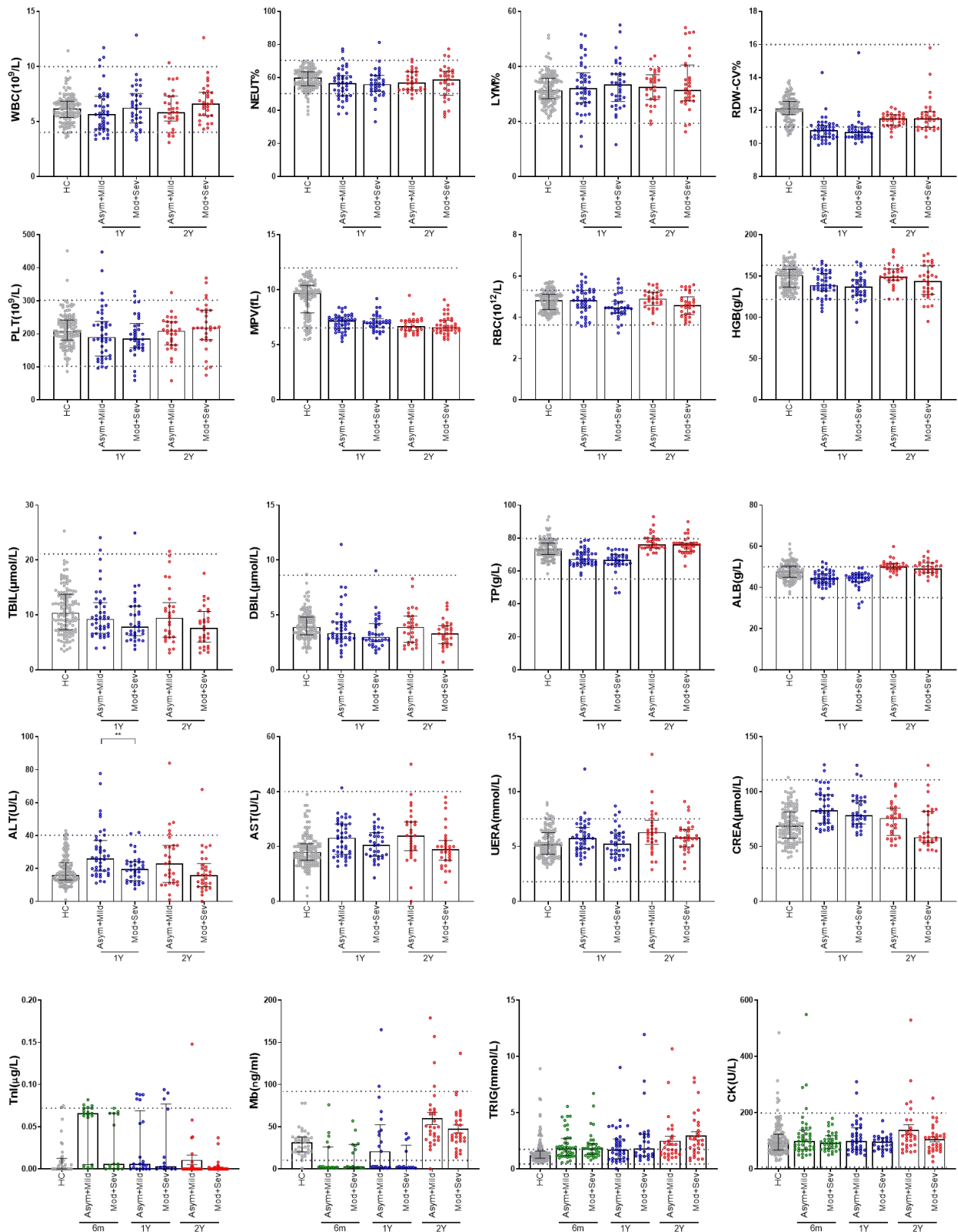


Fig. S2 Stratified analysis of related indicators of COVID-19 convalescents with different disease severity.

Asym: asymptomatic; Mod: moderate; Sev: severe. Each point corresponds to one individual and the bar values represent mean and SEM (standard error of the mean). The double dashed line indicates the normal reference range issued by the testing institution. If it is a single dashed line, the reference boundary on the other side is 0. Multiple comparisons of ANOVA were used. Two-tailed P -values were calculated. Significant differences between groups with different disease severity at the same time point were noted. * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$; **** $P < 0.0001$.

Fig. S3

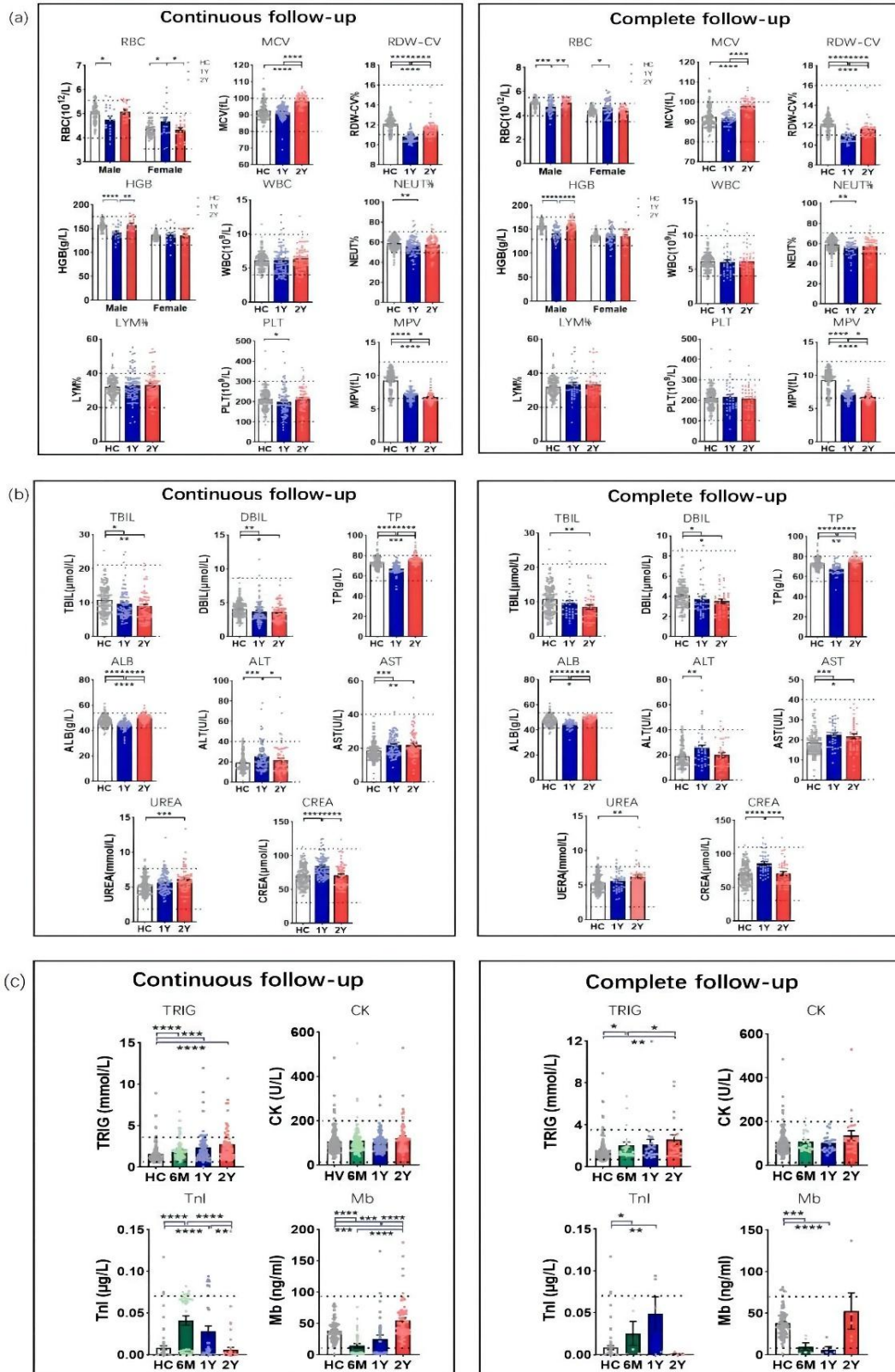


Fig. S3 Comparison of laboratory test indicators between COVID-19 convalescents who participated in continuous and complete follow-up.

Comparison of laboratory test indicators before and after removing incomplete follow-up population. (a-b): blood cell counts (a) and liver & kidney related variables (b). HC: Healthy control (gray, $n = 125$). 1 Y: About 1 year post disease onset (blue, $n = 39$); 2 Y: About 2 years post disease onset (red, $n = 39$). (c): lipid and myocardial related variables. 6 M: 6-month (green, $n = 22$ for TRIG and CK, $n = 5$ for Tnl and Mb), healthy controls (gray, $n = 125$ for TRIG and CK, $n = 75$ for Tnl and Mb). Each point corresponds to one individual and the bar values represent mean and SEM (standard error of the mean). The double dashed line indicates the normal reference range issued by the testing institution. If it is a single dashed line, the reference boundary on the other side is 0. Mann-Whitney U-test was used. Two-tailed P -values were calculated. * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$; **** $P < 0.0001$.

Table S1: Characteristics of participants.

Characteristics ^a	6 M	1 Y	2 Y	HC ^b	<i>P</i> value ^c
Demographic characteristics	<i>n</i> = 77	<i>n</i> = 77	<i>n</i> = 82	<i>n</i> = 125	
Median age (IQR) ,yr	49(41–57)	49(41–56)	45(38–55)	47(40–52)	0.430
Gender, <i>n</i> (%)					
Female	39(50.6)	39(50.6)	40(48.8)	50(40.0)	0.339
Male	38(49.4)	38(49.4)	42(51.2)	75(60.0)	
Clinical type^d, <i>n</i> (%)					
Asymptomatic	8(10.4)	6(7.8)	4(4.9)	/	0.716
Mild	35(45.5)	37(48.1)	37(45.1)	/	
Moderate	24(31.2)	26(33.8)	34(41.5)	/	
Severe/Critical	10(13.0)	8(10.4)	7(8.5)	/	
Median time (IQR) after symptom onset, days	178(173–181)	352(346–355)	695(690–698)	/	/

^a Data are % or median (IQR). % are calculated based on the total number of participants with available data.

^b 6M: About 6 months post disease onset; 1 Y: About 1 year post disease onset; 2 Y: About 2 years post disease onset; HC: Healthy control. The same below.

^c *P*-value of analysis of variance for age, and *P*-value of Chi square test for gender and clinical type ($\alpha = 0.05$).

^d Polytomous variables might not add up to 100% because of rounding.

Table S2: Background diseases of COVID-19 convalescents.

Item	COVID-19 convalescents, <i>n</i> (%)
	<i>n</i> =136
Hypertension	8 (5.9)
Diabetes	4 (2.9)
Chronic cough	3 (2.2)
Urinary calculus	2 (1.5)
Alzheimer's disease	1 (0.7)
Coronary disease	1 (0.7)
Cerebral infarction	1 (0.7)
Chronic pleurisy	1 (0.7)
Joint pain	1 (0.7)
Chronic diarrhea	1 (0.7)
Viral hepatitis	1 (0.7)
Allergic dermatitis	1 (0.7)
Total	23 (16.9)

Table S3: Blood cell count & liver and kidney related variables of the COVID-19 convalescents during 1 year and 2 years follow-ups.

	Reference range	1 Y ^a		2 Y ^a		HC ^a		P value ^b	P value	P value
		Below ^c	Above	Below	Above	Below	Above	(1Y VS HC)	(2Y VS HC)	(1Y VS 2Y)
Blood cell count, n (%)										
RBC (10 ¹² /L)	M:4.0–5.5; F:3.5–5.0 ^d	4 (5.3)	16 (21.1)	0	5 (8.5)	0	11 (8.8)	<.0001	0.942	0.015
HGB (g/L)	M:130–175; F:115–150	10 (13.2)	9 (11.8)	5 (8.5)	6 (10.2)	0	5 (4.0)	<.0001	0.001	0.611
HCT %	M:40–50; F:35–45	14 (18.4)	14 (18.4)	2 (3.4)	27 (45.8)	0	18 (14.4)	<.0001	<.0001	<.0001
RDW-CV %	11–16	51 (67.1)	0	10 (16.9)	0	10 (8.0)	0	<.0001	0.069	<.0001
MCV (fL)	80–100	2 (2.6)	2 (2.6)	1 (1.7)	22 (37.3)	0	11 (8.8)	0.049	<.0001	<.0001
MCH (pg)	27–34	6 (7.9)	3 (3.9)	3 (5.1)	3 (5.1)	1 (0.8)	3 (2.4)	0.015	0.071	0.839
MCHC (g/L)	320–360	25 (32.9)	2 (2.6)	35 (59.3)	1 (1.7)	15 (12.0)	0	<.0001	<.0001	0.005
WBC (10 ⁹ /L)	4–10	9 (11.8)	5 (6.6)	4 (6.8)	2 (3.4)	5 (4.0)	1 (0.8)	0.007	0.281	0.453
NEUT %	50–70	19 (25.0)	4 (5.3)	10 (16.9)	4 (6.8)	8 (6.4)	0	<.0001	0.001	0.489
NEUT (10 ⁹ /L)	2–7	12 (15.8)	3 (3.9)	3 (5.1)	1 (1.7)	0	0	<.0001	0.010	0.095
LYM %	20–40	4 (5.3)	16 (21.1)	4 (6.8)	10 (16.9)	0	6 (4.8)	<.0001	<.0001	0.818
LYM (10 ⁹ /L)	0.8–4.0	0	0	0	1 (1.7)	0	1 (0.8)	1.000	0.540	0.437
MONO %	3–12	1 (1.3)	6 (7.9)	0	0	0	1 (0.8)	0.005	1.000	0.035
MONO (10 ⁹ /L)	0.12–1.20	0	0	0	0	0	0	/	/	/
EO %	0.5–5.0	0	9 (11.8)	1 (1.7)	6 (10.2)	0	6 (4.8)	0.065	0.104	0.765
EO (10 ⁹ /L)	0.02–0.50	0	0	0	0	0	0	/	/	/
BASO %	0–1	/	0	/	/	/	/	/	/	/
BASO (10 ⁹ /L)	0–0.1	/	0	/	/	/	/	/	/	/
PLT (10 ⁹ /L)	100–300	5 (6.6)	6 (7.9)	4 (6.8)	5 (8.5)	1 (0.8)	2 (1.6)	0.004	0.005	1.000
MPV (fL)	6.5–12.0	17 (22.4)	0	26 (44.1)	0	12 (9.6)	0	0.013	<.0001	0.009
PDW (fL)	9–17	45 (59.2)	0	45 (76.3)	0	22 (17.6)	1 (0.8)	<.0001	<.0001	0.044
PCT %	0.108–0.282	15 (19.7)	3 (3.9)	10 (16.9)	0	2 (1.6)	4 (3.2)	<.0001	0.0002	0.216

P-LCC (10 ⁹ /L)	13–129	0	1 (1.3)	0	0	0	0	0.378	/	1.000
P-LCR %	9–45	0	1 (1.3)	0	1 (1.7)	0	1 (0.8)	1.000	0.540	1.000
Liver and kidney variables, n (%)										
TBIL (μmol/L)	0–21	/	3 (3.9)	/	1 (1.7)	/	1 (0.8)	0.153	0.540	0.632
DBIL (μmol/L)	0–8.6	/	2 (2.6)	/	0	/	1 (0.8)	0.558	1.000	0.504
TP (g/L)	55–80	3 (3.9)	0	0	10 (16.9)	0	10 (8.0)	0.002	0.079	<.0001
ALB (g/L)	41.4–53.7 ^e	13 (17.1)	0	0	6 (10.2)	1 (1.3)	7 (9.2)	<.0001	0.562	<.0001
ALT (U/L)	0–40	/	10 (13.2)	/	6 (10.2)	/	3 (2.4)	0.005	0.032	0.789
AST (U/L)	0–40	/	1 (1.3)	/	1 (1.7)	/	0	0.378	0.321	1.000
γ-GT (U/L)	0–50	/	7 (9.2)	/	5 (8.5)	/	8 (6.4)	0.581	0.759	1.000
ALP (U/L)	0–130	/	5 (6.6)	/	6 (10.2)	/	3 (2.4)	0.157	0.032	0.533
UREA (mmol/L)	1.8–7.5	0	6 (7.9)	0	10 (16.9)	0	7 (5.6)	0.562	0.026	0.117
UA (μmol/L)	143–444	0	8 (10.5)	0	7 (11.9)	1 (0.8)	5 (4.0)	0.103	0.074	1.000
CREA (μmol/L)	30–110	0	6 (7.9)	0	1 (1.7)	0	1 (0.8)	0.013	0.540	0.136

^a 1 Y:About 1year post disease onset (*n* =76). 2 Y:About 2years post disease onset (*n* =59). HC: Healthy control (*n* =125).

^b *P* value of Chi square/Fisher's exact test between 1 Y and HC (α =0.05), the rest can be done in the same manner.

^c Below/Above: *n* (%) of below or above the corresponding reference value.

^d M: male F: female. The same below.

^e The normal range of the indicator ALB was set as the 5%-95% percentile range of the healthy controls.

RBC, red blood cell; HGB, hemoglobin; HCT, hematocrit; RDW-CV, red-blood-cell distribution width-coefficient of variation; MCV, mean corpuscular volume; MCH, mean corpuscular hemoglobin; MCHC, mean corpuscular hemoglobin concentration; WBC, white blood cell; NEUT, neutrophil; LYM, lymphocyte; MONO, monocyte; EO, eosinophil; BASO, basophils; PLT, platelet; MPV, mean platelet volume; PDW, platelet distribution width; PCT, plateletcrit; P-LCC, platelet large cell count; P-LCR, platelet large cell ratio. TBIL, total bilirubin; DBIL, direct bilirubin; IBIL, indirect bilirubin; TP, total protein; ALB, albumin; GLO, globulin; A/G, albumin/globulin; ALT, alanine aminotransferase; AST, aspartate aminotransferase; AST/ALT, aspartate aminotransferase/alanine aminotransferase ratio; γ-GT, γ-glutamyl transpeptidase; ALP, alkaline phosphatase; UREA, urea; UA, uric acid; CREA, creatinine.

Table S4: Lipid and myocardial related variables of the COVID-19 convalescents during 6 months, 1 year and 2 years follow-ups.

	Reference range	6 M ^a		1 Y ^a		2 Y ^b		HC ^b		<i>P</i> value ^c	<i>P</i> value	<i>P</i> value	<i>P</i> value	<i>P</i> value	<i>P</i> value
		Below	Above	Below	Above	Below	Above	Below	Above	(6 M VS HC)	(1 Y VS HC)	(2 Y VS HC)	(6 M VS 1 Y)	(6 M VS 2 Y)	(1 Y VS 2 Y)
Lipid variables, <i>n</i> (%)															
HDL (mmol/L)	1–1.9 ^d	16 (21.1)	1 (1.3)	10 (15.9)	6 (9.5)	12 (20.3)	3 (5.1)	0	4 (5.3)	<.000 1	<.000 1	<.000 1	0.08 0	0.513	0.602
LDL (mmol/L)	0–3.4	/	9 (11.8)	/	15 (23.8)	/	15 (25.4)	/	24 (19.2)	0.172	0.462	0.335	0.06 3	0.041	0.836
TC (mmol/L)	3.1–5.7	1 (1.3)	10 (13.2)	2 (3.2)	10 (15.9)	1 (1.7)	9 (15.3)	4 (3.2)	9 (7.2)	0.313	0.175	0.196	0.65 8	0.903	1.000
TRIG (mmol/L)	0.67–3.53 ^d	2 (2.6)	11 (14.5)	2 (3.2)	10 (15.9)	0	13 (22.0)	1 (1.3)	6 (7.9)	0.019	0.009	0.001	0.93 1	0.356	0.328
Myocardial variables, <i>n</i> (%)															
LDH (U/L)	40–250	0	3 (3.9)	0	2 (3.2)	0	1 (1.7)	0	1 (0.8)	0.153	0.260	0.540	1.00 0	0.632	1.000
CK (U/L)	2–200	0	4 (5.3)	0	2 (3.2)	0	6 (10.2)	0	7 (5.6)	1.000	0.720	0.355	0.68 9	0.332	0.154
CK–MB (U/L)	0–24.0	/	3 (3.9)	/	1 (1.6)	/	1 (1.7)	/	1 (0.8)	0.153	1.000	0.540	0.62 6	0.632	1.000
TnT (ng/ml)	0–0.1	/	0	/	0	/	0	/	0	/	/	/	/	/	/
TnI (µg/L)	0–0.07	/	7 (20.6)	/	0	/	1 (1.7)	/	4 (5.3)	0.033	0.308	0.384	0.01 1	0.003	1.000
ProBNP (pg/ml)	age<75:0–125 age≥75:0–450	/	2 (5.9)	/	0	/	5 (8.5)	/	1 (1.3)	0.229	1.000	0.087	0.49 3	1.000	0.154

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Mb (ng/ml)	10–92	22 (64.7)	0	19 (55.9)	2 (5.9)	0	5 (8.5)	1 (1.3)	0	<.000 1	<.000 1	0.015	0.45 9	<.000 1	<.000 1
CRP (mg/dl)	0–0.8	/	0	/	0	/	2 (3.4)	/	1 (1.3)	1.000	1.000	0.582	/	0.531	0.531

^a 6 M:About 6months post disease onset. 1 Y:About 1 year post disease onset. For HDL, LDL, TC, TRIG, LDH, CK, CK–MB, TnT, $n = 76$ at 6M and $n = 63$ at 1 Y. For TnI, ProBNP, Mb, and CRP, $n = 34$.

^b 2 Y:About 2 years post disease onset. $n = 59$ for all of the variables. HC: Healthy control. $n = 125$ for HDL, LDL, TC, TRIG, LDH, CK, and CK–MB, and $n = 75$ for TnT, TnI, ProBNP, Mb, and CRP.

^c P value of Chi square/Fisher's exact test between 6 M and HC ($\alpha = 0.05$), the rest can be done in the same manner.

^d The normal range of HDL and TRIG was set as the 5%–95% percentile range of the healthy controls.

^e The reference range of ProBNP variable depends on the age of the subjects.

HDL, high–density lipoprotein cholesterol; LDL, low–density lipoprotein cholesterol; TC, total cholesterol; TRIG, triglyceride; LDH, lactate dehydrogenase; CK, creatine kinase; CK–MB, creatine kinase isoenzyme; TnT, troponin T; TnI, troponin I; ProBNP, pro–brain natriuretic peptide; Mb, myoglobin; CRP, C–reactive protein.

Table S5: Symptoms or characteristics of the COVID–19 convalescents who participated in continuous and complete follow-up.

Item	All follow-up participants			Completely follow-up participants		
	1 Y <i>n</i> = 76	2 Y <i>n</i> = 80	<i>P</i> value (1 Y VS 2 Y) ^a	1 Y <i>n</i> = 40	2 Y <i>n</i> = 40	<i>P</i> value (1 Y VS 2 Y) ^a
Post-discharge discomfort^b, <i>n</i> (%)	<u>46 (60.5)</u>^c	<u>38 (47.5)</u>	0.103	<u>22 (55.0)</u>^c	<u>18 (45.0)</u>	0.371
Fatigue	25 (33.9)	15 (18.8)	0.043 ^d	12 (30.0)	11 (27.5)	0.805
Muscle weakness	19 (25.0)	7 (8.8)	0.007 ^d	7 (17.5)	3 (7.5)	0.176
Hair loss	17 (22.4)	7 (8.8)	0.019 ^d	7 (17.5)	3 (7.5)	0.176
Sleep difficulties	14 (18.4)	17 (21.3)	0.658	6 (15.0)	12 (30.0)	0.108
Hypertension	12 (15.8)	10 (12.5)	0.555	7 (17.5)	5 (12.5)	0.531
Decreased appetite	3 (3.9)	4 (5.0)	1.000	2 (5.0)	3 (7.5)	0.644
Taste disorder	1 (1.3)	3 (3.8)	0.621	0	2 (5.0)	0.152
Smell disorder	1 (1.3)	6 (7.5)	0.117	0	3 (7.5)	0.078
mMRC score^e, <i>n</i> (%)						
0	45 (59.2)	60 (75.0)	0.036 ^d	24 (60.0)	34 (84.5)	0.012 ^d
1	27 (35.5)	15 (18.8)	0.018 ^d	14 (35.0)	5 (12.5)	0.018 ^d
2	3 (3.9)	5 (6.3)	0.720	1 (2.5)	1 (2.5)	1.000
3	1 (1.3)	0	0.487	1 (2.5)	0	0.314
4	0	0	/	0	0	/
Pain, <i>n</i> (%)	<u>19 (25.0)</u>	<u>10 (12.5)</u>	0.045 ^d	<u>12 (30.0)</u>	<u>6 (15.0)</u>	0.108
Joint pain	7 (9.2)	2 (2.5)	0.092	6 (15.0)	1 (2.5)	0.048
Myalgia	6 (7.9)	2 (2.5)	0.159	3 (7.5)	1 (2.5)	0.305
Chest pain	5 (6.6)	1 (1.3)	0.110	2 (5.0)	1 (2.5)	0.556
Headache	2 (2.6)	6 (7.5)	0.278	2 (5.0)	3 (7.5)	0.644
Circulatory symptoms, <i>n</i> (%)	<u>22 (28.9)</u>	<u>11 (13.8)</u>	0.020 ^d	<u>11 (27.5)</u>	<u>9 (22.5)</u>	0.606
Feeling cold	17 (22.4)	3 (3.8)	0.001 ^d	9 (22.5)	3 (7.5)	0.060
Excessive sweating when mild exercise/rest/sleep	11 (14.5)	7 (8.8)	0.263	5 (12.5)	6 (15.0)	0.745
Palpitations	6 (7.9)	0	0.012 ^d	3 (7.5)	0	0.078
Arrhythmia	2 (2.6)	3 (3.8)	1.000	2 (5.0)	2 (5.0)	1.000
Respiratory symptoms, <i>n</i> (%)	<u>16 (21.1)</u>	<u>24 (30.0)</u>	0.201	<u>6 (15.0)</u>	<u>14 (35.0)</u>	0.039 ^d
Chest distress	10 (13.2)	6 (7.5)	0.244	5 (12.5)	6 (7.5)	0.745
Shortness of breath	6 (7.9)	7 (8.8)	0.847	3 (7.5)	4 (10.0)	0.692
Cough	4 (5.3)	8 (10.0)	0.267	1 (2.5)	5 (12.5)	0.090
Sore throat or	4 (5.3)	2 (2.5)	0.434	1 (2.5)	0	0.314

foreign body
sensation

Sensitive to dust	0	1 (1.3)	1.000	0	1 (2.5)	0.314
Gastrointestinal symptoms, n (%)	<u>9 (11.8)</u>	<u>2 (2.5)</u>	0.023 ^d	<u>6 (15.0)</u>	<u>0</u>	0.011 ^d
Hematochezia	3 (3.9)	0	0.113	1 (2.5)	0	0.314
Constipation	3 (3.9)	1 (1.3)	0.358	2 (5.0)	0	0.152
Nausea	2 (2.6)	1 (1.3)	0.613	1 (2.5)	0	0.314
Hemolymphatic symptoms, n (%)	<u>7 (9.2)</u>	<u>0</u>	0.006 ^d	<u>2 (5.0)</u>	<u>0</u>	0.152
Gum bleeding	6 (7.9)	0	0.012 ^d	1 (2.5)	0	0.314
Jaundice	2 (2.6)	0	0.236	1 (2.5)	0	0.314
Urinary Symptoms, n (%)	<u>6 (7.9)</u>	<u>3 (3.8)</u>	0.319	<u>1 (2.5)</u>	<u>1 (2.5)</u>	1.000
Copious urine	3 (4.0)	1 (1.3)	0.358	0	1 (2.5)	0.314
Dysuria	1 (1.3)	1 (1.3)	1.000	1 (2.5)	0	0.314
Urinary calculi	1 (1.3)	0	0.487	0	0	/
Limb edema	1 (1.3)	0	0.487	0	0	/
Proteinuria	0	1 (1.3)	1.000	0	0	/

^a P value of Chi square/Fisher's exact test between 1 Y and 2 Y ($\alpha = 0.05$). 1 Y: About 1 year post disease onset; 2 Y: About 2 years post disease onset; HC: Healthy control.

^b Overall proportion of convalescents who reported at least one discomfort after discharge.

^c The data in bold and underlined is the overall proportion with the corresponding characteristics.

^d There are significant differences between the two time points ($\alpha = 0.05$).

^e mMRC score: modified British Medical Research Council score. Polytomous variables might not add up to 100% because of rounding. The higher the score (range 0–4), the more severe the dyspnea.

Supplementary Material: Questionnaire for COVID-19 convalescents (in local language).

新冠肺炎康复者自我报告健康状况调查

基本信息

姓名:	性别:	年龄:	职业:
调查员:	日期:		

健康相关信息

1. 新冠肺炎确诊后，您是否又确诊了其他疾病（多选）
A 糖尿病 **B** 慢性肺病 **C** 高血压 **D** 慢性心脏病 **E** 慢性肝病 **F** 季节性流感 **G** 哮喘 **H** 恶性肿瘤 **I** 结核病
J 慢性肾病 **K** 慢性神经障碍 **L** 其他:
3. 患有新冠肺炎之前，请问您是否吸烟？
A 是 **B** 一直不吸 **C** 已戒烟 **D** 自己不吸，但家人吸烟
4. 患有新冠肺炎之后，请问您是否吸烟？
A 是 **B** 一直不吸 **C** 已戒烟 **D** 自己不吸，但家人吸烟
5. 您接种新冠疫苗的情况如何？
A 是，已完成两针接种，接种时间： **B** 是，已完成三针接种，接种时间：
C 仅接种一针，时间及原因： **D** 未接种，原因：

恢复期评估

1. 您出院后有明显的不适吗？
如果是，请注明：
2. 您如何评价您目前的健康状况？
 与患新冠之前相同 经常感到疲劳，现在活动后比之前更容易疲劳 健康状况较感染前改善
3. 恢复后，在没有减肥的情况下，有没有出现体重降低的情况？
 体重增加 几乎没有 下降后又回升 恢复后持续下降
4. COVID-19 康复后您是否有以下疼痛症状出现且持续？
 没有 头痛 肌肉痛 胸痛 关节痛 如有其他问题，请注明：
5. COVID-19 康复后您是否有以下新发且持续的症状？

无 低烧 (37.3–38.0°C) 心悸 头晕 皮疹

6. 与 COVID-19 之前相比, 您的嗅觉感觉如何?

与以前一样 比以前差 比以前好 全部损失

7. 与 COVID-19 之前相比, 您对自己的味觉感觉如何?

与以前一样 比以前差 比以前好 全部损失

8. 与 COVID-19 之前相比, 您感觉您的食欲如何?

与以前一样 比以前差 比以前好

9. 与 COVID-19 之前相比, 您认为您的睡眠状况如何?

与以前一样 比以前差 比以前好

10. 与 COVID-19 之前相比, 您感觉您的肌肉力量如何?

与以前一样 比以前差 比以前好

11. 与 COVID-19 之前相比, 您现在经历过脱发吗?

COVID-19 前后无脱发 脱发情况与以往相同 比以前掉了更多的头发 脱发比以前少了

12. 与 COVID-19 之前相比, 您是否感觉到以下呼吸系统症状?

气促, 呼吸困难 咳嗽 咳痰 喉痛 胸闷 其他:

13. 与 COVID-19 之前相比, 恢复后您是否感觉到以下泌尿系统症状?

肢体水肿 排尿困难 蛋白尿 (尿液产生大量泡沫) 血尿 (尿液有血色) 其他:

14. 与 COVID-19 之前相比, 恢复后您是否感觉到以下循环系统症状?

感觉发冷 心率不齐 心前区压榨性疼痛, 如有濒死感 其他:

15. 与 COVID-19 之前相比, 恢复后您是否感觉到以下代谢系统症状?

轻微活动或休息或夜间时明显出汗 皮肤苍白, 明显营养不良 其他:

16. 以下是改良英国医学委员会呼吸困难量表 (mMRC), 请您根据个人感受选择一个等级。

0 级: 仅在费力运动时才会出现喘息。

1 级: 平地快步行走或步行爬小坡时出现气短。

2 级: 我由于气短, 平地行走时比同龄人慢, 需要停下来休息。

3 级: 在平地行走 100 米左右或数分钟后需要停下来休息。

4 级: 因严重呼吸困难以至于不能离开家, 或在穿衣服、脱衣服时出现呼吸困难。