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**Supplementary Table 1. The recruitment information of each hospital**

Hospital name	Recruitment date	Principle Investigator	Total Patients	COVID-19 Patients with CHB	COVID-19 Patients without CHB
			<i>N</i> = 436	<i>N</i> = 109	<i>N</i> = 327
Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology <sup>†</sup>	January 13 to April 15, 2020	Zihua Wang	213	52	161
Wuhan Pulmonary Hospital	January 13 to April 15, 2020	Zhi Yao	64	17	47
Wuhan Jinyintan Hospital	January 13 to April 15, 2020	Xiongbo Deng	159	40	119

*Legend:* CHB, chronic hepatitis B; COVID-19, coronavirus disease 2019.

<sup>†</sup>Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology consists of three parts including the main Branch, Optical Valley Branch and Sino French New City Branch, which admitted the most COVID-19 cases in Wuhan, China.

**Supplementary Table 2. Clinical and laboratory findings of COVID-19 patients with CHB and non- CHB**

Variables	Total	CHB		Non-CHB		P value
	N = 436		N = 109		N = 327	
<b>Initial symptoms–n(%)</b>	<b>N = 436</b>		<b>N = 109</b>		<b>N = 327</b>	
Fever	305(69.95)		82(75.23)		223(68.20)	0.165
Cough	271(62.16)		62(56.88)		209(63.91)	0.190
Fatigue	209(47.94)		53(48.62)		156(47.71)	0.868
Dyspnea	201(46.10)		60(55.05)		141(43.12)	<b>0.031</b> <sup>*</sup>
Expectoration	178(40.83)		48(44.04)		130(39.76)	0.431
Chest tightness	89(20.41)		25(22.94)		64(19.57)	0.450
Diarrhoea	71(16.28)		19(17.43)		52(15.90)	0.708
Chills	46(10.55)		10(9.17)		36(11.01)	0.589
Myalgia	41(9.40)		8(7.34)		33(10.09)	0.394
Anorexia	28(6.42)		9(8.26)		19(5.81)	0.367
Headache	27(6.19)		3(2.75)		24(7.34)	0.085
Vertigo	15(3.44)		3(2.75)		12(3.67)	0.771 <sup>a</sup>
Others <sup>b</sup>	70(16.06)		11(10.09)		59(18.04)	0.050
<b>CT findings–n(%)</b>	<b>N = 405</b>		<b>N = 93</b>		<b>N = 312</b>	
Ground-glass opacity	269(66.42)		67(72.04)		202(64.74)	0.191
Patchy shadows	220(54.32)		57(61.29)		163(52.24)	0.124
Fibrous stripes	143(35.31)		31(33.33)		112(35.90)	0.650
Pleural thickening	64(15.80)		12(12.90)		52(16.67)	0.382
Nodules	52(12.84)		13(13.98)		39(12.50)	0.708
Lymphadenia	52(12.84)		10(10.75)		42(13.46)	0.493
Bilateral pulmonary	237(58.52)		69(74.19)		168(53.85)	<b>&lt;0.001</b> <sup>*</sup>
Left lung	16(3.95)		2(2.15)		14(4.49)	0.543 <sup>a</sup>
Right lung	13(3.21)		2(2.15)		11(3.53)	0.741 <sup>a</sup>
<b>Vital signs–M(IQR)</b>						
Temperature (N = 431), °C	36.70(36.30-37.10)	N = 104	36.70(36.30-37.30)	N = 327	36.70(36.30-37.10)	0.349
Heart rate (N = 364), bpm	88.00(80.00-100.00)	N = 37	85.00(78.00-104.00)	N = 327	88.00(80.00-100.00)	0.469
Respiratory rate (N = 425), bpm	20.00(20.00-21.00)	N = 98	20.00(20.00-22.00)	N = 327	20.00(20.00-21.00)	0.522
Mean arterial pressure (N = 409), mmHg	96.30(88.67-104.85)	N = 82	96.30(90.60-104.78)	N = 327	96.33(88.00-105.00)	0.549
<b>Organ damage indexes–M(IQR)</b>						
TC (N = 425), mmol/L	3.80(3.27-4.42)	N = 99	3.73(3.17-4.54)	N = 326	3.81(3.32-4.41)	0.588
TG (N = 280), mmol/L	1.25(0.99-1.80)	N = 71	1.32(1.03-1.77)	N = 209	1.20(0.97-1.83)	0.509
HDL-C (N = 261), mmol/L	1.00(0.83-1.22)	N = 55	0.90(0.70-1.09)	N = 206	1.03(0.86-1.25)	<b>0.001</b> <sup>*</sup>
LDL-C (N = 261), mmol/L	2.44(1.87-2.95)	N = 55	2.27(1.65-2.86)	N = 206	2.49(1.90-2.96)	0.066
TBA (N = 232), µmol/L	3.40(2.10-5.93)	N = 54	4.70(2.43-12.10)	N = 178	3.30(1.93-5.20)	<b>0.006</b> <sup>*</sup>
Urea (N = 427), mmol/L	4.30(3.40-5.36)	N = 101	4.20(3.54-5.71)	N = 326	4.30(3.40-5.30)	0.708
ALT/AST (N = 435)	0.87(0.67-1.11)	N = 108	0.95(0.74-1.33)	N = 327	0.85(0.67-1.06)	<b>0.002</b> <sup>*</sup>
GGT (N = 431), U/L	20.00(15.00-36.00)	N = 104	21.00(14.50-33.00)	N = 327	19.00(15.00-39.00)	0.365
IBIL (N = 402), µmol/L	6.20(4.80-8.30)	N = 80	6.35(4.13-8.40)	N = 322	6.20(4.90-8.23)	0.578
CK (N = 290), U/L	70.00(47.25-105.75)	N = 73	75.00(48.00-153.00)	N = 217	70.00(47.00-100.00)	0.288

hs-cTnI ( <i>N</i> = 368), pg/mL	2.80(1.90-5.90)	<i>N</i> = 79	3.00(1.90-13.30)	<i>N</i> = 289	2.70(1.90-5.50)	<b>0.047*</b>
Platelet, # ( <i>N</i> = 433), ×10 <sup>9</sup> /L	211.00(165.00-261.00)	<i>N</i> = 106	204.00(146.25-257.00)	<i>N</i> = 327	214.00(174.50-262.00)	0.051
TT ( <i>N</i> = 222), s	16.40(15.60-17.30)	<i>N</i> = 102	16.55(15.63-17.80)	<i>N</i> = 120	16.25(15.50-17.00)	<b>0.006*</b>
PT-INR ( <i>N</i> = 429)	1.04(0.99-1.10)	<i>N</i> = 102	1.11(1.04-1.22)	<i>N</i> = 327	1.03(0.98-1.08)	<b>&lt;0.001*</b>
FDP ( <i>N</i> = 351), g/L	4.00(4.00-11.00)	<i>N</i> = 63	4.00(4.00-8.70)	<i>N</i> = 288	4.00(4.00-11.75)	0.564
eGFR ( <i>N</i> = 415), ml/ (min <sup>1.73m<sup>2</sup></sup> )	94.50(82.90-107.10)	<i>N</i> = 89	94.50(80.58-108.50)	<i>N</i> = 326	94.65(83.73-106.88)	0.718
Creatinine ( <i>N</i> = 433), μmol/L	70.00(59.00-84.00)	<i>N</i> = 106	68.50(58.55-85.28)	<i>N</i> = 327	70.00(60.00-84.00)	0.936
Uric Acid ( <i>N</i> = 430), μmol/L	276.00(219.33-336.50)	<i>N</i> = 104	278.70(215.00-330.08)	<i>N</i> = 326	273.50(219.55-338.80)	0.696
NT-proBNP ( <i>N</i> = 330), pg/mL	56.00(23.00-136.75)	<i>N</i> = 72	69.00(24.75-176.25)	<i>N</i> = 258	54.00(22.00-127.50)	0.156
Fibrinogen ( <i>N</i> = 424), g/L	3.73(3.00-4.69)	<i>N</i> = 99	3.51(2.65-4.68)	<i>N</i> = 325	3.74(3.09-4.69)	0.059
PTA ( <i>N</i> = 409), %	88.00(75.00-94.00)	<i>N</i> = 82	85.00(68.75-92.25)	<i>N</i> = 327	88.00(79.00-94.00)	0.052

#### Blood gas characteristics-M(IQR)

PaO <sub>2</sub> ( <i>N</i> = 94), mmHg	93.00(87.00-99.00)	<i>N</i> = 28	91.65(76.35-103.00)	<i>N</i> = 66	93.00(90.00-99.00)	0.468
SaO <sub>2</sub> ( <i>N</i> = 93), %	98.10(96.40-99.00)	<i>N</i> = 28	96.70(94.65-98.38)	<i>N</i> = 65	98.40(97.10-99.10)	<b>0.002*</b>
PaCO <sub>2</sub> ( <i>N</i> = 94), mmHg	40.70(37.03-44.08)	<i>N</i> = 28	40.05(31.43-44.75)	<i>N</i> = 66	41.85(38.90-44.03)	0.261
CtCO <sub>2</sub> ( <i>N</i> = 91), mmol/L	21.60(20.05-24.65)	<i>N</i> = 26	25.55(19.53-28.83)	<i>N</i> = 65	21.50(20.30-23.30)	0.134

*Legend:* COVID-19, Coronavirus disease 2019; CHB, Chronic hepatitis B; M, median; IQR, interquartile range; CT, Computerized tomography; bpm, beats/ breaths per minute; TC, Total cholesterol; TG, Triglyceride; HDL-C, High-density lipoprotein-cholesterol; LDL-C, Low-density lipoprotein-cholesterol; TBA, Total bile acid; ALT, Alanine aminotransferase; AST, Aspartate aminotransferase; GGT, Gamma-glutamyl transpeptidase; IBIL, Indirect bilirubin; Alkaline phosphatase; CK, Creatine kinase; hs-cTnI, high-sensitivity cardiac troponin I; TT, Thrombin time; PT-INR, Prothrombin international normalized ratio; FDP, Fibrinogen; eGFR, Estimated glomerular filtration rate; degradation product; NT-proBNP, N-terminal of the pro-brain natriuretic peptide; PTA, Prothrombin time activity; PaO<sub>2</sub>, Oxygen partial pressure; SaO<sub>2</sub>, Oxygen saturation; PaCO<sub>2</sub>, Carbon dioxide partial pressure; CtCO<sub>2</sub>, Blood carbon dioxide content.

<sup>b</sup>Other initial symptoms: hemoptysis, stomachache, palpitation, chest pain, pharyngalgia, nausea, vomiting, catarrh or cyanosis.

*P* values were calculated by Mann-Whitney U non-parameter test for skewed distributed data. *P* values of categorical variables were calculated by Fisher's exact test (a) or Pearson  $\chi^2$  test. \**P* < 0.05.

**Supplementary Table 3. Clinical and laboratory findings of severe and non-severe COVID-19 patients with CHB**

Variables	Total	Severe		Non-severe		P value
	N = 109	N = 30		N = 79		
<b>Initial symptoms–n(%)</b>	<b>N = 109</b>	<b>N = 30</b>		<b>N = 79</b>		
Fever	82(75.23)	22(73.33)		60(75.95)		0.777
Cough	62(56.88)	16(53.33)		46(58.23)		0.645
Fatigue	53(48.62)	16(53.33)		37(46.84)		0.544
Dyspnea	60(55.05)	26(86.67)		34(43.04)		<0.001*
Expectoration	48(44.04)	11(36.67)		37(46.84)		0.340
Chest tightness	25(22.94)	13(43.33)		12(15.19)		0.002*
Diarrhoea	19(17.43)	4(13.33)		15(18.99)		0.487
Chills	10(9.17)	1(3.33)		9(11.39)		0.279a
Myalgia	8(7.34)	3(10.00)		5(6.33)		0.682a
Anorexia	9(8.26)	4(13.33)		5(6.33)		0.256a
Headache	3(2.75)	1(3.33)		2(2.53)		1.000a
Vertigo	3(2.75)	2(6.67)		1(1.27)		0.183a
Others <sup>b</sup>	11(10.09)	3(10.00)		8(10.13)		1.000a
<b>CT findings–n(%)</b>	<b>N = 93</b>	<b>N = 25</b>		<b>N = 68</b>		
Ground-glass opacity	67(72.04)	22(88.00)		45(66.18)		0.038*
Patchy shadows	57(61.29)	20(80.00)		37(54.41)		0.025*
Fibrous stripes	31(33.33)	11(44.00)		20(29.41)		0.186
Nodules	13(13.98)	4(16.00)		9(13.24)		0.742a
Lymphadenia	10(10.75)	1(4.00)		9(13.24)		0.278a
Pleural thickening	12(12.90)	2(8.00)		10(14.71)		0.503a
Bilateral pulmonary	69(74.19)	23(92.00)		46(67.65)		0.017*
Left lung	2(2.15)	2(8.00)		0(0.00)		0.070a
Right lung	2(2.15)	0(0.00)		2(2.94)		1.000a
<b>Vital signs–M(IQR)</b>						
Temperature (N = 104), °C	36.70(36.30-37.30)	N=30	37.00(36.78-37.55)	N = 74	36.50(36.28-37.30)	<b>0.002*</b>
Heart rate (N = 37), bpm	85.00(78.00-104.00)	N = 7	92.00(82.50-107.50)	N = 30	84.50(78.00-97.50)	0.236
Respiratory rate (N = 98), bpm	20.00(20.00-22.00)	N = 20	20.00(19.75-23.00)	N = 78	20.00(20.00-21.00)	0.370
Mean arterial pressure (N = 82), mmHg	96.30(90.60-104.78)	N = 10	93.35(88.65-100.58)	N = 72	96.30(91.40-105.98)	0.192
<b>Laboratory examinations</b>						
<b>Biochemistry markers–M(IQR)</b>						
TC (N = 99), mmol/L	3.73(3.17-4.54)	N = 25	3.40(3.00-4.21)	N = 74	3.89(3.27-4.64)	0.173
TG (N = 71), mmol/L	1.32(1.03-1.77)	N = 19	1.34(1.06-1.63)	N = 52	1.31(1.01-1.81)	0.810
HDL-C (N = 55), mmol/L	0.90(0.70-1.09)	N = 17	0.86(0.72-0.99)	N = 38	0.91(0.70-1.15)	0.397
LDL-C (N = 55), mmol/L	2.27(1.65-2.86)	N = 17	2.05(1.54-3.45)	N = 38	2.30(1.77-2.85)	0.750
TBA (N = 54), µmol/L	4.70(2.43-12.10)	N = 17	5.60(2.40-9.30)	N = 37	4.50(2.50-13.00)	0.716
Urea (N = 101), mmol/L	4.20(3.54-5.71)	N = 25	4.41(3.97-6.60)	N = 76	4.00(3.48-5.35)	0.146
ALT/AST (N = 108)	0.95(0.74-1.33)	N = 30	0.95(0.83-1.37)	N = 78	0.97(0.69-1.35)	0.504
GGT (N = 104), U/L	21.00(14.50-33.00)	N = 26	21.50(12.75-36.00)	N = 78	21.00(15.00-33.00)	0.839
IBIL (N = 80), µmol/L	6.35(4.13-8.40)	N = 21	7.20(6.00-11.00)	N = 59	5.70(3.75-7.95)	<b>0.027*</b>

CK (N = 73), U/L	75.00(48.00-153.00)	N = 21	64.00(38.00-153.00)	N = 52	76.00(48.75-144.58)	0.428
hs-cTnI (N = 79), pg/mL	3.00(1.90-13.30)	N = 22	8.25(2.50-776.90)	N = 57	3.00(1.90-7.65)	<b>0.023<sup>*</sup></b>
Platelet, # (N = 106), ×10 <sup>9</sup> /L	204.00(146.25-257.00)	N = 27	197.00(147.50-240.50)	N = 79	205.00(146.00-260.00)	0.703
TT (N = 102), s	16.55(15.63-17.80)	N = 26	16.55(15.45-17.95)	N = 76	16.55(15.78-17.73)	0.930
PT-INR (N = 102)	1.11(1.04-1.22)	N = 26	1.21(1.07-1.27)	N = 76	1.10(1.04-1.17)	0.054
FDP (N = 63), g/L	4.00(4.00-8.70)	N = 17	4.00(4.00-6.70)	N = 46	4.00(4.00-8.53)	0.541
eGFR (N = 89), ml/(min*1.73m <sup>2</sup> )	94.50(80.58-108.50)	N = 23	95.35(84.10-106.65)	N = 66	94.45(80.71-108.88)	0.873
Creatinine (N = 106), μmol/L	68.50(58.55-85.28)	N = 28	78.50(61.75-92.70)	N = 78	67.00(55.25-82.75)	0.135
Uric Acid (N = 104), μmol/L	278.70(215.00-330.08)	N = 26	255.75(194.75-319.50)	N = 78	279.50(220.50-331.20)	0.561
NT-proBNP (N = 72), pg/mL	69.00(24.75-176.25)	N = 16	38.82(23.75-106.00)	N = 56	75.20(32.00-184.25)	0.261
Fibrinogen (N = 99), g/L	3.51(2.65-4.68)	N = 26	4.14(2.75-5.24)	N = 73	3.38(2.65-4.45)	0.143
PTA (N = 82), %	85.00(68.75-92.25)	N = 21	76.00(68.00-90.00)	N = 61	85.00(71.53.00)	0.193
<b>Blood gas characteristics-M(IQR)</b>						
PaO <sub>2</sub> (N = 28), mmHg	91.65(76.35-103.00)	N = 7	84.20(54.00-93.00)	N = 21	95.10(81.20-110.50)	0.106
SaO <sub>2</sub> (N = 28), %	96.70(94.65-98.38)	N = 7	92.10(88.05-94.55)	N = 21	97.00(96.00-99.00)	<b>0.005<sup>*</sup></b>
PaCO <sub>2</sub> (N = 28), mmHg	40.05(31.43-44.75)	N = 7	31.90(7.90-39.30)	N = 21	40.10(35.70-47.00)	0.105
CtCO <sub>2</sub> (N = 26), mmol/L	25.55(19.53-28.83)	N = 6	13.10(8.85-19.68)	N = 20	26.45(21.05-28.93)	<b>0.026<sup>*</sup></b>

*Legend:* COVID-19, Coronavirus disease 2019; CHB, Chronic hepatitis B; M, median; IQR, interquartile range; bpm, beats/ breaths per minute; TC, Total cholesterol; TG, Triglyceride; HDL-C, High-density lipoprotein-cholesterol; LDL-C, Low-density lipoprotein-cholesterol; TBA, Total bile acid; ALT, Alanine aminotransferase; AST, Aspartate aminotransferase; GGT, Gamma-glutamyl transpeptidase; IBIL, Indirect bilirubin; Alkaline phosphatase; CK, Creatine kinase; hs-cTnI, high-sensitivity cardiac troponin I; TT, Thrombin time; PT-INR, Prothrombin international normalized ratio; FDP, Fibrinogen; eGFR, Estimated glomerular filtration rate; NT-proBNP, N-terminal of the pro-brain natriuretic peptide; PTA, Prothrombin time activity; PaO<sub>2</sub>, Oxygen partial pressure; SaO<sub>2</sub>, Oxygen saturation; PaCO<sub>2</sub>, Carbon dioxide partial pressure; CtCO<sub>2</sub>, Blood carbon dioxide content;

<sup>b</sup>Other initial symptoms: hemoptysis, stomachache, palpitation, chest pain, pharyngalgia, nausea, vomiting, catarrh or cyanosis.

*P* values were calculated by Mann-Whitney U non-parameter test for skewed distributed data and *P* values of categorical variables were calculated by Fisher's exact test (a) or Pearson  $\chi^2$  test.. <sup>\*</sup>*P* < 0.05.

**Supplementary Table 4. Factors associated with the death of COVID-19 patients with CHB**

Variables	Univariable Cox regression		Multivariable Cox regression	
	HR (95% CI)	P value	HR (95% CI)	P value <sup>†</sup>
<b>Complications (N = 109)</b>				
ARDS (N = 38)	9.915(2.196-44.764)	<b>0.003*</b>	16.374(2.503-107.101)	<b>0.004*</b>
Cardiac injury (N = 14)	1.072(0.237-4.853)	0.928	1.248(0.253-6.155)	0.785
Heart failure (N = 10)	3.237(0.886-11.827)	0.076	2.877(0.645-12.830)	0.166
DIC (N = 5)	17.041(5.534-52.470)	<b>&lt;0.001*</b>	16.948(4.411-65.110)	<b>&lt;0.001*</b>
<b>Laboratory examinations</b>				
<b>Blood routine</b>				
Neutrophils, # (N = 107), ×10 <sup>9</sup> /L	1.169(1.041-1.313)	<b>0.008*</b>	1.170(1.022-1.340)	<b>0.023*</b>
<b>Immune cell subsets</b>				
Lymphocytes, # (N = 109), ×10 <sup>9</sup> /L	0.302(0.094-0.939)	<b>0.034*</b>	0.379(0.097-0.975)	<b>0.042*</b>
CD4 <sup>+</sup> T cells, # (N = 35), /μL	0.795(0.285-0.985)	<b>0.036*</b>	0.793(0.358-0.998)	<b>0.045*</b>
<b>Inflammatory cytokines and biomarkers</b>				
IL-6 (N = 69), pg/mL	1.003(1.001-1.004)	<b>0.001*</b>	1.025(1.010-1.040)	<b>0.001*</b>
TNF-α (N = 58), pg/mL	1.066(1.019-1.115)	<b>0.006*</b>	1.050(1.001-1.102)	<b>0.048*</b>
hs-CRP (N = 94), mg/L	1.019(1.011-1.028)	<b>&lt;0.001*</b>	1.017(1.004-1.029)	<b>0.008*</b>
<b>Organ damage indexes-M(IQR)</b>				
ALT (N = 108), U/L	1.005(1.001-1.010)	<b>0.022*</b>	1.008(1.001-1.015)	<b>0.018*</b>
AST (N = 108), U/L	1.010(1.006-1.014)	<b>&lt;0.001*</b>	1.014(1.008-1.019)	<b>&lt;0.001*</b>
ALP (N = 104), U/L	1.005(1.003-1.008)	<b>&lt;0.001*</b>	1.012(1.001-1.023)	<b>0.039*</b>
TBIL (N = 108), μmol/L	1.053(1.036-1.070)	<b>&lt;0.001*</b>	1.047(1.028-1.067)	<b>&lt;0.001*</b>
ALB (N = 106), g/L	0.856(0.784-0.935)	<b>0.001*</b>	0.839(0.760-0.927)	<b>0.001*</b>
ALB/GLO (N = 106)	0.006(0.000-0.088)	<b>&lt;0.001*</b>	0.003(0.000-0.066)	<b>&lt;0.001*</b>
LDH (N = 105), U/L	1.003(1.002-1.005)	<b>&lt;0.001*</b>	1.003(1.002-1.001)	<b>&lt;0.001*</b>
hs-cTnI (N = 79) pg/mL	1.002(1.001-1.004)	<b>0.002*</b>	1.004(1.001-1.007)	<b>0.012*</b>
APTT (N = 105), s	1.048(1.021-1.076)	<b>&lt;0.001*</b>	1.053(1.021-1.085)	<b>0.001*</b>
D-dimer (N = 104), ug/mL	1.129(1.065-1.196)	<b>&lt;0.001*</b>	1.191(1.088-1.304)	<b>&lt;0.001*</b>

*Legend:* COVID-19, Coronavirus disease 2019; CHB, Chronic hepatitis B; HR, Hazard ratio; CI, Confidential interval; ARDS, Acute respiratory distress syndrome; DIC, Disseminated intravascular coagulation; CD, Cluster of differentiation; IL-6, Interleukin 6; TNF-α, Tumor necrosis factor α; hs-CRP, High-sensitivity C-reactive protein; ALT, Alanine aminotransferase; AST, Aspartate aminotransferase; ALP, Alkaline phosphatase; TBIL, Total bilirubin; ALB, Albumin; GLO, Globulin; LDH, Lactic dehydrogenase; hs-cTnI, High-sensitivity cardiac troponin I; APTT, Activated partial thromboplastin time.

<sup>†</sup>Adjusted for age, sex, comorbidities.

HRs and 95% CIs were calculated by univariable and multivariable Cox regression models. \**P* < 0.05.