

SUPPLEMENTARY MATERIALS

Patients with COVID-19 and HBV coinfection are at risk of poor prognosis

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Table S1 LSD results of age

(I) Group	(J) Group	I-J	Standard error	Sig.	95% CI	
					Lower	Upper
Without CHB	Resolved hepatitis B	-3.932*	.705	.000	-5.31	-2.55
	HBeAg (-) CHB/infection	-3.535	2.178	.105	-7.81	.74
	HBeAg (+) CHB/infection	-6.067*	1.953	.002	-9.90	-2.24
	HBV reactivation	-13.952*	5.851	.017	-25.43	-2.48
Resolved hepatitis B	Without CHB	3.932*	.705	.000	2.55	5.31
	HBeAg (-) CHB/infection	.396	2.250	.860	-4.02	4.81
	HBeAg (+) CHB/infection	-2.136	2.033	.294	-6.12	1.85
	HBV reactivation	-10.021	5.878	.088	-21.55	1.51
HBeAg (-) CHB/infection	Without CHB	3.535	2.178	.105	-.74	7.81
	Resolved hepatitis B	-.396	2.250	.860	-4.81	4.02
	HBeAg (+) CHB/infection	-2.532	2.895	.382	-8.21	3.14
	HBV reactivation	-10.417	6.229	.095	-22.63	1.80
HBeAg (+) CHB/infection	Without CHB	6.067*	1.953	.002	2.24	9.90

HBV reactivation	Resolved hepatitis B	2.136	2.033	.294	-1.85	6.12
	HBeAg (-) CHB/infection	2.532	2.895	.382	-3.14	8.21
	HBV reactivation	-7.885	6.154	.200	-19.95	4.18
	Without CHB	13.952*	5.851	.017	2.48	25.43
	Resolved hepatitis B	10.021	5.878	.088	-1.51	21.55
	HBeAg (-) CHB/infection	10.417	6.229	.095	-1.80	22.63
	HBeAg (+) CHB/infection	7.885	6.154	.200	-4.18	19.95

*. P<0.05

Table S2 LSD results of BMI

(I) Group	(J) Group	I-J	Standard error	Sig	95% CI	
					Lower	Upper
Without CHB	Resolved hepatitis B	.36920*	.17805	.038	.0201	.7183
	HBeAg (-) CHB/infection	-1.14240*	.55032	.038	-2.2215	-.0633
	HBeAg (+) CHB/infection	-.55497	.49338	.261	-1.5224	.4124
	HBV reactivation	2.71989	1.47811	.066	-.1784	5.6181
Resolved hepatitis B	Without CHB	-.36920*	.17805	.038	-.7183	-.0201
	HBeAg (-) CHB/infection	-1.51160*	.56846	.008	-2.6262	-.3970
	HBeAg (+) CHB/infection	-.92417	.51353	.072	-1.9311	.0827
	HBV reactivation	2.35069	1.48495	.114	-.5610	5.2624
HBeAg (-) CHB/infection	Without CHB	1.14240*	.55032	.038	.0633	2.2215
	Resolved hepatitis B	1.51160*	.56846	.008	.3970	2.6262
	HBeAg (+) CHB/infection	.58742	.73135	.422	-.8466	2.0214
	HBV reactivation	3.86229*	1.57361	.014	.7768	6.9478
HBeAg (+) CHB/infection	Without CHB	.55497	.49338	.261	-.4124	1.5224
	Resolved hepatitis B	.92417	.51353	.072	-.0827	1.9311

	HBeAg (-) CHB/infection	-.58742	.73135	.422	-2.0214	.8466
	HBV reactivation	3.27487*	1.55461	.035	.2266	6.3231
HBV reactivation	Without CHB	-2.71989	1.47811	.066	-5.6181	.1784
	Resolved hepatitis B	-2.35069	1.48495	.114	-5.2624	.5610
	HBeAg (-) CHB/infection	-3.86229*	1.57361	.014	-6.9478	-.7768
	HBeAg (+) CHB/infection	-3.27487*	1.55461	.035	-6.3231	-.2266

*, P<0.05

Table S3 LSD results of DBP

(I) Group	(J) Group	I-J	Standard error	Sig	95% CI	
					Lower	Upper
Without CHB	Resolved hepatitis B	-0.939	0.553	0.089	-2.02	0.14
	HBeAg (-) CHB/infection	-2.603	1.708	0.128	-5.95	0.75
	HBeAg (+) CHB/infection	0.547	1.531	0.721	-2.46	3.55
	HBV reactivation	15.450*	4.587	0.001	6.46	24.44
Resolved hepatitis B	Without CHB	0.939	0.553	0.089	-0.14	2.02
	HBeAg (-) CHB/infection	-1.665	1.764	0.345	-5.12	1.79
	HBeAg (+) CHB/infection	1.485	1.594	0.351	-1.64	4.61
	HBV reactivation	16.388*	4.608	0	7.35	25.42
HBeAg (-) CHB/infection	Without CHB	2.603	1.708	0.128	-0.75	5.95
	Resolved hepatitis B	1.665	1.764	0.345	-1.79	5.12
	HBeAg (+) CHB/infection	3.15	2.27	0.165	-1.3	7.6
	HBV reactivation	18.053*	4.883	0	8.48	27.63
HBeAg (+) CHB/infection	Without CHB	-0.547	1.531	0.721	-3.55	2.46
	Resolved hepatitis B	-1.485	1.594	0.351	-4.61	1.64

HBV reactivation	HBeAg (-) CHB/infection	-3.15	2.27	0.165	-7.6	1.3
	HBV reactivation	14.903*	4.824	0.002	5.44	24.36
	Without CHB	-15.450*	4.587	0.001	-24.44	-6.46
	Resolved hepatitis B	-16.388*	4.608	0	-25.42	-7.35
	HBeAg (-) CHB/infection	-18.053*	4.883	0	-27.63	-8.48
	HBeAg (+) CHB/infection	-14.903*	4.824	0.002	-24.36	-5.44

*. P<0.05

Table S4 HRs and 95% CI of different HBV infection status for death and ICU in patients with COVID19 (excluded patients with MELD score ≥ 20)

	Cases	Model A	Model B	Model C	Model D	Model E
ICU						
Without CHB	68 (3.0)	1	1	1	1	1
Resolved hepatitis B	28 (5.6)	0.94 (0.60-1.48)	0.90 (0.57-1.41)	0.88 (0.56-1.38)	0.83 (0.52-1.30)	0.44 (0.27-0.72)
HBeAg (-) CHB	2 (4.5)	0.89 (0.22-3.66)	0.81 (0.20-3.30)	0.81 (0.20-3.31)	0.79 (0.19-3.24)	0.22 (0.05-0.95)
HBeAg (+) CHB	18 (34.6)	10.42 (6.18-17.57)	7.46 (4.38-12.68)	7.56 (4.45-12.83)	7.48 (4.33-12.94)	1.73 (0.95-3.16)
HBV reactivation	3 (60.0)	4.15 (1.26-13.74)	3.68 (1.09-12.44)	3.94 (1.16-13.33)	3.45 (0.96-12.34)	0.15 (0.04-0.63)
Death						
Without CHB	36 (1.6)	1	1	1	1	1
Resolved hepatitis B	10 (2.0)	0.89 (0.44-1.80)	0.81 (0.40-1.65)	0.81 (0.40-1.64)	0.77 (0.38-1.57)	0.48 (0.23-1.02)
HBeAg (-) CHB	1 (2.3)	1.05 (0.14-7.65)	0.90 (0.12-6.57)	0.89 (0.12-6.55)	0.95 (0.13-6.97)	0.35 (0.05-2.80)
HBeAg (+) CHB	15 (28.8)	17.46 (9.55-31.92)	12.22 (6.61-22.61)	12.19 (6.59- 22.54)	10.56 (5.57- 20.05)	2.94 (1.47-5.87)
HBV reactivation	0 (0.0)	(-)	(-)	(-)	(-)	(-)

Model A: Crude model;

Model B: Adjusted for age and gender;

Model C: Adjusted for age, gender, nationalities and marital status;

Model D: Adjusted for age, gender, nationalities, marital status, hypertension, diabetes, CVD, cancer and BMI;

Model E: Adjusted for age, gender, nationalities, marital status, hypertension, diabetes, CVD, cancer, BMI, types, steroid hormones, antibiotics, antiviral medication and antineoplastic drugs.

Table S5 HRs and 95% CI of different HBV infection status for death and ICU in male and female patients with COVID19.

	Male			Female		
	Cases	Crude Model	Adjusted Model	Cases	Crude Model	Adjusted Model
ICU						
Without CHB	48 (4.2)	1	1	22 (1.9)	1	1
Resolved hepatitis B	19 (7.3)	0.86 (0.5-1.48)	0.82 (0.47-1.43)	11 (4.6)	1.26 (0.6-2.65)	1.14 (0.53-2.44)
HBeAg (-) CHB	2 (7.1)	0.99 (0.24-4.11)	0.88 (0.21-3.66)	0 (0.0)	(-)	(-)
HBeAg (+) CHB	12 (33.3)	7.01 (3.71-13.24)	5.36 (2.73-10.51)	8 (42.1)	22.28 (9.87-50.32)	14.79 (6.07-36.02)
HBV reactivation	0 (0.0)	(-)	(-)	4 (80.0)	8.27 (2.40-28.50)	7.25 (1.96-26.82)
Death						
Without CHB	27 (2.3)	1	1	10 (0.9)		1
Resolved hepatitis B	7 (2.7)	0.77 (0.33-1.80)	0.74 (0.31-1.74)	4 (1.7)	1.37 (0.42-4.47)	1.17 (0.36-3.84)
HBeAg (-) CHB	1 (3.6)	1.06 (0.14-7.86)	1.01 (0.14-7.48)	0 (0.0)	(-)	(-)
HBeAg (+) CHB	10 (27.8)	11.05 (5.33-22.9)	6.50 (3.01-14.02)	7 (36.8)	41.47 (15.70-109.52)	42.5 (14.46-124.88)
HBV reactivation	0 (0.0)	(-)	(-)	0 (0.0)	(-)	(-)

Adjusted model: Adjusted for age, nationalities, marital status, hypertension, diabetes, CVD, cancer and BMI

Table S6 HRs and 95% CI of different HBV infection status for death and ICU in <60ys and ≥60ys patients with COVID19

	<60ys			≥60ys		
	Cases	Crude Model	Adjusted Model	Cases	Crude Model	Adjusted Model
ICU						
Without CHB	10 (0.9)	1	1	60 (5.1)	1	1
Resolved hepatitis B	6 (2.8)	1.65 (0.58-4.71)	1.52 (0.53-4.4)	24 (8.4)	0.86 (0.53-1.40)	0.77 (0.47-1.26)
HBeAg (-) CHB	0 (0.0)	(-)	(-)	2 (7.7)	0.91 (0.22-3.74)	0.93 (0.22-3.86)
HBeAg (+) CHB	2 (10.5)	19.52 (4.18-91.04)	15.94 (3.24-78.49)	18 (50.0)	7.35 (4.29-12.57)	7.74 (4.47-13.41)
HBV reactivation	0 (0.0)	(-)	(-)	4 (66.7)	4.45 (1.51-13.11)	4.81 (1.53-15.17)
Death						
Without CHB	4 (0.4)	1	1	33 (2.8)		1
Resolved hepatitis B	3 (1.4)	2.41 (0.51-11.32)	1.9 (0.38-9.52)	8 (2.8)	0.72 (0.33-1.57)	0.67 (0.3-1.46)
HBeAg (-) CHB	0 (0.0)	(-)	(-)	1 (3.8)	1.07 (0.15-7.82)	1.09 (0.15-8.04)
HBeAg (+) CHB	1 (5.3)	21.30 (2.35-192.8)	19.65 (2.15-179.29)	16 (44.4)	13.96 (7.67-25.42)	11.65 (6.18-21.94)
HBV reactivation	0 (0.0)	(-)	(-)	0 (0.0)	(-)	(-)

Adjusted model: Adjusted for age, nationalities, marital status, hypertension, diabetes, CVD, cancer and BMI