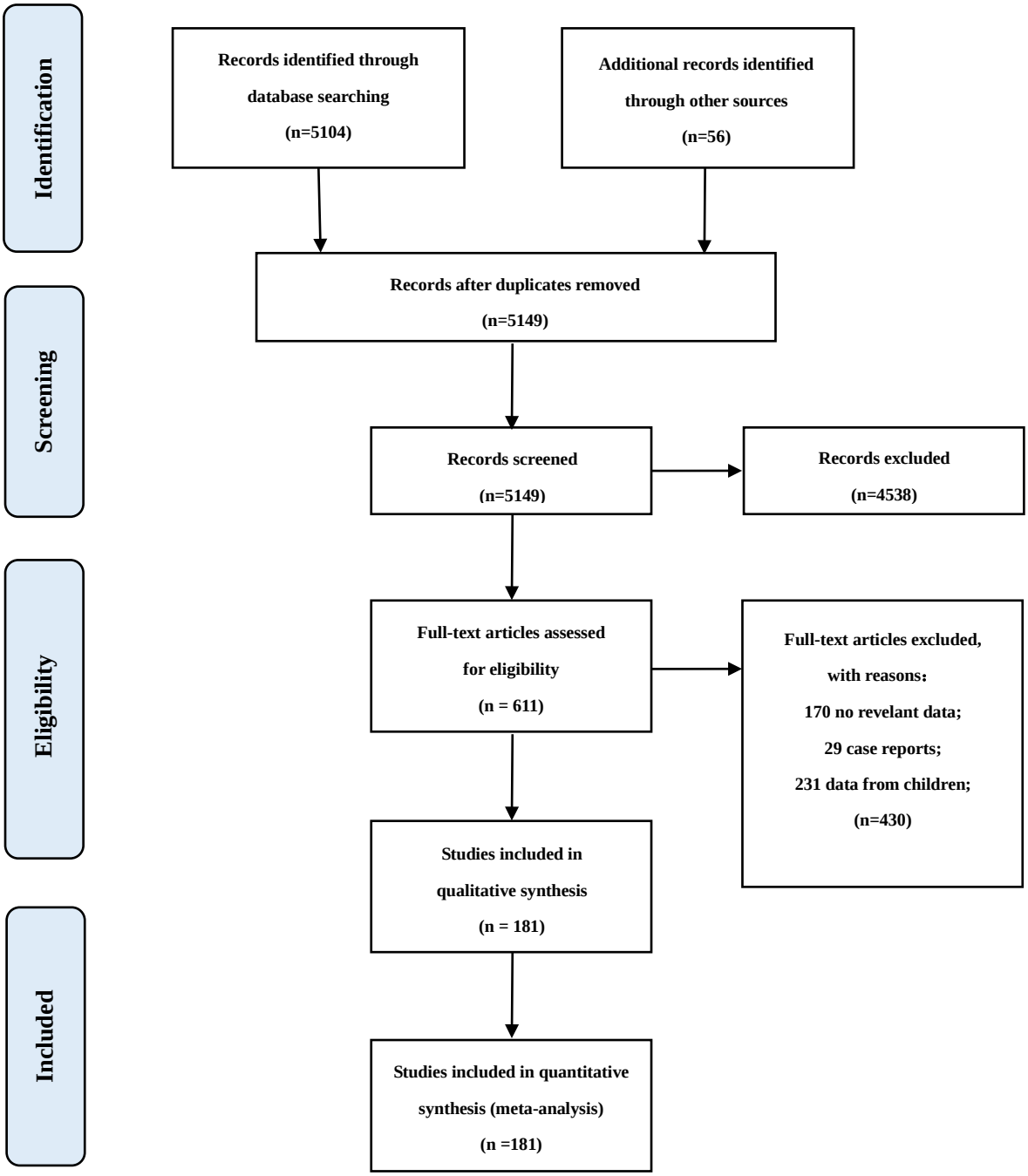
Supplementary Materials:


Identification
Screening
Eligibility
Included
Records identified through database searching (n=5104)
Additional records identified through other sources (n=56)
Records after duplicates removed (n=5149)
Records screened (n=5149)
Records excluded (n=4538)
Full-text articles assessed for eligibility (n = 611)
Full-text articles excluded, with reasons:
170 no revelant data;
29 case reports;
231 data from children;
(n=430)
Studies included in qualitative synthesis (n = 181)
Studies included in quantitative synthesis (meta-analysis) (n =181)

Supplementary Table 1. Characteristics of included studies.

Study	Year	country	Research Type	Size	Quality
Lian J et al.[1]	2020	WuHan, China	Retrospective study	788	Low
Shi S et al.[2]	2020	WuHan, China	Cohort study	416	High
Guo T et al.[3]	2020	WuHan, China	Retrospective study	187	Moderate
Arentz M et al.[4]	2020	Washington, USA	Cohort study	21	High
Liu Y et al.[5]	2020	Shenzheng, China	Retrospective study	12	Low
Fan Y et al.[6]	2020	WuHan, China	Retrospective study	123	Moderate
Chen T et al.[7]	2020	WuHan, China	Retrospective study	274	Moderate
Wang D et al.[8]	2020	WuHan, China	Retrospective study	138	Moderate
Yan S et al.[9]	2020	Hainan, China	Retrospective study	168	Moderate
Guan WJ et al.[10]	2020	China	Retrospective study	1099	Moderate
Goyal P et al.[11]	2020	New York, USA	Retrospective study	393	Moderate
Zhao XY et al.[12]	2020	Hubei, China	Retrospective study	91	Low
Xu Y et al.[13]	2020	China	Retrospective study	69	Moderate
Wang D et al.[14]	2020	WuHan, China	Retrospective study	107	Moderate
Yang X et al.[15]	2020	WuHan, China	Retrospective study	52	Moderate
Zhou F et al.[16]	2020	WuHan, China	Retrospective study	191	High
Zhang G et al.[17]	2020	WuHan, China	Retrospective study	221	Moderate
Cao J et al.[18]	2020	WuHan, China	Cohort study	102	Low
Wan S et al.[19]	2020	Chongqing, China	Retrospective study	135	Moderate
Liu K et al.[20]	2020	Hainan, China	Retrospective study	56	Moderate
Huang C et al.[21]	2020	WuHan, China	Prospective study	41	Moderate
Huang R et al.[22]	2020	Jiangsu, China	Retrospective study	202	Low
Chen N et al.[23]	2020	WuHan, China	Retrospective study	99	Moderate
Liao J et al.[24]	2020	Chongqing, China	Retrospective study	46	Moderate
Xi A et al.[25]	2020	Qinghai, China	Retrospective study	18	Moderate
Wang R et al.[26]	2020	Anhui, China	Retrospective study	125	Moderate
Qi D et al.[27]	2020	Chongqing, China	Retrospective study	267	Moderate
Jin X et al.[28]	2020	Zhejiang, China	Retrospective study	651	Moderate
Zhang X et al.[29]	2020	Zhejiang, China	Retrospective study	645	Low
Richardson S et al.[30]	2020	New York，USA	Retrospective study	5700	Moderate
Li Y et al.[31]	2020	WuHan, China	Retrospective study	54	Low
Li X et al.[32]	2020	WuHan, China	Cohort study	548	High
Qiu C et al.[33]	2020	Hunan, China	Retrospective study	104	Moderate
Duan Q et al.[34]	2020	WuHan, China	Retrospective study	116	Moderate
Yang F et al.[35]	2020	WuHan, China	Retrospective study	92	Moderate
Chen T et al.[36]	2020	WuHan, China	Retrospective study	203	Moderate
Feng X et al.[37]	2020	WuHan, China	Observational study	114	Moderate

Li X et al.[38]	2020	WuHan, China	Retrospective study	25	Moderate
Zheng Y et al.[39]	2020	Hangzhou, China	Retrospective study	34	Moderate
Huang Y et al.[40]	2020	WuHan, China	Retrospective study	36	Low
Zhang B et al.[41]	2020	WuHan, China	Retrospective study	82	Moderate
Shi Q et al.[42]	2020	WuHan, China	Retrospective study	101	Moderate
Deng Y et al.[43]	2020	WuHan, China	Retrospective study	225	Moderate
Du Y et al.[44]	2020	WuHan, China	Retrospective study	85	Moderate
Li J et al.[45]	2020	WuHan, China	Retrospective study	161	Moderate
Wang L et al.[46]	2020	WuHan, China	Retrospective study	339	Moderate
Huang M et al.[47]	2020	Jiangsu, China	Retrospective study	60	Moderate
Ruan Q et al.[48]	2020	WuHan, China	Retrospective study	150	Moderate
Li C et al.[49]	2021	Wuhan,China	Retrospective study	125	Moderate
Ren D et al.[50]	2020	Shenzhen, China	Retrospective study	150	Moderate
Xu X et al.[51]	2020	Guangzhou, China	Retrospective study	90	Moderate
Abohamr SI et al.[52]	2020	Riyadh, Saudi Arabia	Retrospective study	768	Moderate
Yi H et al.[53]	2020	China	Retrospective study	54	Moderate
Teich VD et al.[54]	2020	São Paulo, Brazil	Retrospective study	72	Moderate
Zhao K et al.[55]	2020	Wuhan, China	Retrospective study	619	Moderate
Bardi T et al.[56]	2020	Madrid, Spain	Retrospective study	140	Moderate
Dirim AB et al.[57]	2020	Istanbul, Turkey	Retrospective study	112	Moderate
Hu W et al.[58]	2020	Wuhan,China	Retrospective study	1254	Moderate
De Angelis G et al.[59]	2020	Italian	Retrospective study	165	Moderate
Hong L et al.[60]	2020	Wenzhou, China	Retrospective study	67	Moderate
Cai H et al.[61]	2021	Zhejiang, China	Retrospective study	455	High
Wang W et al.[62]	2021	Sichuan, China	Retrospective study	169	Moderate
Raparelli V et al.[63]	2020	Italian	Retrospective study	3517	Moderate
Wu B et al.[64]	2020	Hainan, China	Retrospective study	91	Moderate
He S et al.[65]	2020	Wuhan,China	Retrospective study	267	Moderate
Feng G et al.[66]	2020	Hubei, China	Retrospective study	134	Moderate
Tian J et al.[67]	2020	Sichuan, China	Retrospective study	120	High
Hao SR et al.[68]	2020	Zhejiang, China	Retrospective study	788	High
He F et al.[69]	2020	Guangzhou, China	Retrospective study	288	Moderate
Tan X et al.[70]	2020	Wuhan,China	Retrospective study	163	Moderate
Kutluhan MA et al.[71]	2020	Istanbul, Turkey.	Retrospective study	96	Moderate
Cai Q et al.[72]	2020	Hubei, China	Retrospective study	298	Moderate
Luo H et al.[73]	2020	Jiangsu, China	Retrospective study	625	High
Wang Z et al.[74]	2020	Wuhan,China	Retrospective study	293	Moderate
Yuan H et al.[75]	2020	Xiangyang, China	Retrospective study	23	Moderate
Pinato DJ et al.[76]	2020	Europe	Retrospective study	204	Moderate
Niu R et al.[77]	2021	Wuhan, China	Retrospective study	361	Moderate
Buckner FS et al.[78]	2020	Seattle, USA	Retrospective study	105	Moderate
Chen J et al.[79]	2020	Wuhan, China	Retrospective study	3309	Moderate

Stefan G et al.[80]	2020	Romania	Retrospective study	37	Moderate
Ussaid A et al.[81]	2020	Lahore,Pakistan	Retrospective study	47	Moderate
Al-Salameh A et al.[82]	2020	Amiens, France	Retrospective study	433	Moderate
Zhang B et al.[83]	2020	Wuhan, China	Retrospective study	98	Moderate
Yang X et al.[84]	2020	Wuhan, China	Retrospective study	59	Moderate
Xu R et al.[85]	2020	Sichuan, China	Retrospective study	117	Moderate
Ren C et al.[86]	2020	Shenzhen, China	Retrospective study	422	Moderate
Chu H et al.[87]	2020	Wuhan, China	Retrospective study	838	Moderate
Hachim MY et al.[88]	2020	United Arab Emirates	Retrospective study	128	Moderate
Yang X et al.[89]	2021	Hubei, China	Retrospective study	73	Moderate
Peng S et al.[90]	2020	Wuhan, China	Retrospective study	4020	Moderate
Huang R et al.[91]	2020	China	Retrospective study	280	Moderate
Fu Y et al.[92]	2020	Wuhan, China	Retrospective study	482	High
Guo T et al.[93]	2020	Hunan, China	Retrospective study	350	Moderate
Topaktaş R et al.[94]	2020	Istanbul, Turkey	Retrospective study	18	Moderate
Zhang J et al.[95]	2020	Wuhan, China	Retrospective study	31	Moderate
Lian J et al.[96]	2020	Zhejiang, China	Retrospective study	465	High
Xu H et al. [97]	2020	Sichuan, China	Retrospective study	102	Moderate
Shi M et al.[98]	2020	China	Retrospective study	161	Moderate
Lim JH et al.[99]	2020	Daegu, South Korea	Retrospective study	30	Moderate
Yang Q et al.[100]	2020	Wuhan,China	Retrospective study	136	Moderate
Guo T et al.[101]	2020	Hunan, China	Retrospective study	19	Moderate
Vrillon A et al.[102]	2020	Paris, France	Monocentric study	76	Moderate
Gao Y et al.[103]	2020	Beijing, China	Retrospective study	62	High
Zhang B et al.[104]	2020	Guangzhou, China	Retrospective study	23	Moderate
Liu C et al.[105]	2021	Wuhan, China	Retrospective study	1123	Moderate
Gao Y et al.[106]	2020	Wuhan, China	Retrospective study	20	Moderate
Yang L et al.[107]	2020	Yichang,China	A descriptive study	200	Moderate
Liu J et al.[108]	2020	Wuhan, China	Retrospective study	1190	Moderate
Zhang Y et al.[109]	2020	Wuhan, China	Retrospective study	258	Moderate
Conway J et al.[110]	2020	UK	Retrospective study	71	Moderate
Jin XH et al.[111]	2021	Zhejiang, China	Retrospective study	146	Moderate
Zhang L et al.[112]	2020	Wuhan, China	Retrospective study	28	Moderate
Lei Z et al.[113]	2020	Guangzhou, China	Retrospective study	20	Moderate
Tanacan A et al.[114]	2021	Turkish	A prospective study	90	Moderate
Li Y et al.[115]	2020	Wuhan, China	Retrospective study	132	Moderate
Chen Y et al.[116]	2020	Hubei, China	Retrospective study	208	Moderate
Liu D et al.[117]	2020	Wuhan, China	Retrospective study	2044	High
Sim BLH et al.[118]	2020	Malaysia	Retrospective study	5889	Moderate
Zhao J et al.[119]	2021	Jiangsu, China	Retrospective study	84	Moderate
Hansrivijit P et al.[120]	2021	Pennsylvania,USA	Retrospective study	283	Moderate
Nasir N et al.[121]	2020	Pakistan	Retrospective study	9	Moderate

Shah SJ et al.[122]	2020	California, USA	Retrospective study	26	Moderate
da Silva JF et al.[123]	2020	Georgia, USA	Retrospective study	305	Moderate
Wong HYF et al.[124]	2020	Hong Kong,China	Retrospective study	64	Moderate
Wang ZH et al.[125]	2020	Wuhan, China	Retrospective study	59	Moderate
Zhang L et al.[126]	2020	Wuhan, China	Retrospective study	134	Moderate
Nie L et al.[127]	2021	HuBei, China	Retrospective study	45	Moderate
Zhou S et al.[128]	2021	Shandong, China	Retrospective study	62	Moderate
Hong KS et al.[129]	2020	Daegu, South Korea	Descriptive study	98	Moderate
Hong JM et al.[130]	2020	Nanchang,China	Retrospective study	41	Moderate
Cai Q et al.[131]	2020	Shenzhen, China	Cross-sectional study	417	Moderate
Liu W et al.[132]	2020	Wuhan,China	Retrospective study	65	Moderate
Xie L et al.[133]	2020	Sichuan, China	Retrospective study	49	High
Shang Y et al.[134]	2020	Jiangsu, China	Retrospective study	640	Moderate
Hafiz M et al.[135]	2020	Jakarta, Indonesia	Retrospective study	30	Moderate
Gao X et al.[136]	2020	Beijing, China	Retrospective study	106	Moderate
Han J et al.[137]	2020	Wuhan, China	Retrospective study	120	Moderate
Ippolito D et al.[138]	2020	Lombardy, Italian	Retrospective study	204	Moderate
Meiler S et al.[139]	2020	Germany	Retrospective study	64	Moderate
Zhan N et al.[140]	2020	Wuhan, China	Retrospective study	153	Moderate
Ippolito D et al.[141]	2020	Northern Italian	Retrospective study	468	High
Zhu W et al.[142]	2020	Anhui,China	Retrospective study	32	High
Jiang H et al.[143]	2020	Heilongjiang, China	Retrospective study	59	Moderate
Zhang R et al.[144]	2020	Wuhan, China	Retrospective study	120	Moderate
Liu M et al.[145]	2020	Chongqing, China	Retrospective study	122	Moderate
Liu BM et al.[146]	2020	Wuhan, China	Retrospective study	68	Moderate
Luo Z et al.[147]	2020	Hunan, China	Retrospective study	195	Moderate
Sun Y et al.[148]	2020	Beijing, China	Retrospective study	63	Moderate
Duan X et al.[149]	2020	Henan, China	Retrospective study	25	Moderate
Wang J et al.[150]	2020	Zhejiang, China	Retrospective study	307	Moderate
Dang JZ et al.[151]	2020	Wuhan, China	Retrospective study	17	High
Vancheri SG et al.[152]	2020	Pavia,Italy	Retrospective study	180	Moderate
Wang M et al.[153]	2020	Nanchang,China	Retrospective study	66	Moderate
Chen HJ et al.[154]	2020	Hainan, China	Retrospective study	34	Moderate
Zhou Y et al.[155]	2020	Chongqing, China	Retrospective study	29	High
De Vito A et al.[156]	2020	Sardinia, Italy	Retrospective study	87	Moderate
Tabatabaei SMH et al.[157]	2020	Kashan, Iran	Retrospective study	30	Moderate
Zhang L et al.[158]	2020	Shandong, China	Retrospective study	34	Moderate
Feng Y et al.[159]	2020	China	Retrospective study	442	High
Wu J et al.[160]	2020	Chongqing, China	Retrospective study	80	Moderate
Ren HW et al.[161]	2020	Beijing, China	Retrospective study	51	Moderate
Huang H et al.[162]	2020	Wuhan, China	Retrospective study	49	Moderate

Wang J et al.[163]	2020	Zhejiang, China	Retrospective study	93	Moderate
Li Y and Xia L[164]	2020	Wuhan, China	Retrospective study	50	Moderate
Zhou S et al.[165]	2002	Wuhan, China	Retrospective study	62	Moderate
Ieong CM et al.[166]	2020	Macao, China	Retrospective study	45	Moderate
Zhao W et al.[167]	2020	Hunan, China	Retrospective study	118	Moderate
Lin YH et al.[168]	2020	Xiamen,China	Retrospective study	35	Moderate
Liu D et al.[169]	2020	Wuhan, China	Observational study	149	Moderate
Zhang J et al.[170]	2021	China	Comparative study	211	Moderate
Gao J et al.[171]	2020	Zhejiang, China	A retrospective study	74	Moderate
Jiang J et al.[172]	2020	Hunan, China	Retrospective Study	36	Moderate
Wang D et al.[173]	2021	China	Retrospective Study	65	Moderate
Hu X et al.[174]	2020	Chongqing, China	Multicenter study	164	Moderate
Cobb NL et al.[175]	2020	Washington, USA	Retrospective study	63	Moderate
Shayganfar A et al.[176]	2021	Isfahan, Iran	Retrospective Study	176	Moderate
Sahin D et al.[177]	2020	Ankara,Turkey	Retrospective Study	8	Moderate
Sahin D et al. [178]	2021	Ankara,Turkey	Prospective study	533	Moderate
Zhu Q et al.[179]	2020	Wuhan, China	Retrospective Study	40	Moderate
Wu J et al.[180]	2020	China	Retrospective Study	130	Moderate
Liu D et al.[181]	2020	Wuhan, China	Observational Study	224	Moderate
				57706	

All studies were published in 2020 or 2021. The methodological quality of the retrospective studies was assessed according to the Agency for healthcare Research and Quality (AHRQ) as follows: low quality=0-3, moderate quality=4-7, high quality=8-11. The methodological quality of the cohort studies was assessed according to the Newcastle-Ottawa Scale (NOS), and a score of five or more on NOS was considered high quality.

Table 2. Results of Meta-analysis in all cases and in mortality cases

Complications	Results of Meta-analysis	Adjusted Results
All cases		
Coagulopathy	0.6548（0.3932，0.9165）	0.1034（0.0382，0.1957）
ARDS	0.8897（0.7992，0.9766）	0.1852（0.1514，0.2201）
Respiratory failure	0.8377（0.6815，0.994)	0.1654（0.1117，0.2273）
Secondary infection	0.7558（0.5919，0.9198)	0.1361（0.0851，0.1970）
Heart failure	0.6789（0.4925，0.8652)	0.1109（0.0594，0.1758）
Acute cardiac injury	0.69（0.608，0.7719）	0.1144（0.0896，0.1417）
Sepsis	0.6672（0.3539，0.9806）	0.1072（0.0310，0.2217）
Liver injury	0.7706（0.666，0.8752）	0.1413（0.1069，0.1796）
Arrhythmia	0.5236（0.372，0.6752）	0.0670（0.0342，0.1097）
AKI	0.6356（0.5542，0.7169）	0.0976（0.0748，0.1231）
Respiratory injury	0.7177（0.5005，0.935）	0.1233（0.0613，0.2031）
Hypoproteinaemia	0.7037（0.514，0.8934）	0.1188（0.0646，0.1866）
Shock	0.4889（0.3661，0.6116）	0.0586（0.0331，0.0906）
DIC	0.2918（0.1908，0.3928）	0.0211（0.0091，0.0381）
GIB	0.4895（0.2329，0.7461）	0.0587（0.0135，0.1328）
Rhabdomyolysis	0.3787（0.0765，0.6809）	0.0354（0.0015，0.1115）
HAP	0.471（0.2184，0.7246）	0.0544（0.0119，0.1256）
Pheumothorax	0.1339（0.0643，0.2036）	0.0045（0.0010，0.0133）
Acidosis	0.6203（0.3469，0.8938）	0.0931（0.0299，0.1868）
Phlebothrombosis	0.3543（0.1614，0.5472）	0.0311（0.0065，0.0730）
Pleural effusion	0.519（0.4696，0.5684）	0.0658（0.0541，0.0786）
MODS	0.7561（0.5762，0.936）	0.1362（0.0807，0.2035）
Electrolyte disturbance	1.2386（0.797，1.6802）	0.3369（0.1506，0.5546）
Mortality cases		
Coagulopathy	1.4907（0.7266，2.2547）	0.4600（0.1236，0.8159）
ARDS	2.3212（2.1511，2.4913）	0.8410（0.7741，0.8980）
Respiratory failure	2.1834（1.8555，2.5113）	0.7875（0.6404，0.9039）
Secondary infection	1.7604（1.2439，2.2769）	0.5942（0.3394，0.8244）
Heart failure	1.6133（1.0959，2.1307）	0.5212（0.2714，0.7656）
Acute cardiac injury	1.668（1.3511，1.985）	0.5485（0.3910，0.7012）
Sepsis	1.8562（1.079，2.6334）	0.6408（0.2639，0.9368）
Liver injury	1.1669（0.9344，1.3994）	0.3035（0.2028，0.4147）
Arrhythmia	1.5099（1.0986，1.9211）	0.4696（0.2726，0.6716）
AKI	1.3365（1.1251，1.5478）	0.3839（0.2845，0.4885）
Respiratory injury	2.1111（1.5659，2.6563）	0.7572（0.4975，0.9423）
Shock	1.2643（0.9957，1.5329）	0.3491（0.2280，0.4811）
DIC	0.7769（0.3522，1.2015）	0.1435（0.0307，0.3195）

GIB	0.7806（0.3245，1.2367）	0.1448（0.0261，0.3360）
MODS	0.9897（0.7554，1.224）	0.2255（0.1360，0.3301)

ARDS: Acute Respiratory Distress Syndrome; AKI: Acute Kidney Injury; DIC: Disseminated Intravascular Coagulation; GIB: Gastrointestinal bleeding; MOD: Multiple Organ Damage.

Supplementary Table 3. Results of meta-analysis in severe cases and non-severe cases.

Complications	Cases	Results of Meta-analysis	Adjusted Results	P
ARDS	Severe	1.5915（1.4216，1.7615）	0.5104（0.4257，0.5948）	<0.00001
	Non-severe	0.3187（0.2231，0.4144）	0.0252（0.0124，0.0423）	
Liver injury	Severe	1.2639（1.0889，1.4389）	0.3489（0.2683，0.4342）	<0.001
	Non-severe	0.7293（0.4501，1.0086）	0.1272（0.0498，0.2335）	
Arrhythmia	Severe	0.9207（0.6966，1.1448）	0.1974（0.1165，0.2934）	<0.0001
	Non-severe	0.2754（0.0824，0.4685）	0.0188（0.0017，0.0539）	
Respiratory failure	Severe	1.1564（0.9813，1.3315）	0.2987（0.2220，0.3815）	<0.00001
	Non-severe	0.1915（0.0525，0.3305）	0.0091（0.0007，0.0271）	
Acute cardiac injury	Severe	1.1909（1.0547，1.3271）	0.3146（0.2533，0.3794）	<0.00001
	Non-severe	0.351（0.2607，0.4413）	0.0305（0.0169，0.0480）	
AKI	Severe	1.0619（0.9176，1.2062）	0.2564（0.1961，0.3217）	<0.00001
	Non-severe	0.3737（0.2723，0.475）	0.0345（0.0184，0.0554）	
Secondary infection	Severe	0.9389（0.6599，1.2179）	0.2047（0.1050，0.3272）	0.0002
	Non-severe	0.3274（0.1616，0.4931）	0.0266（0.0065，0.0596）	
Shock	Severe	0.9466（0.7802，1.1131）	0.2078（0.1446，0.2791）	<0.00001
	Non-severe	0.138（0.108，0.168）	0.0048（0.0029，0.0070）	
Sepsis	Severe	0.7081（0.5318，0.8844）	0.1202（0.0691，0.1831）	<0.001
	Non-severe	0.2061（-0.0405，0.4528）	0.0106（0.0004，0.0504）	
DIC	Severe	0.6229（0.3238，0.9221）	0.0939（0.0260，0.1979）	0.002
	Non-severe	0.1152（-0.0054，0.2358）	0.0033（0.000，0.0138）	
Pleural effusion	Severe	0.9275（0.7542，1.1008）	0.2001（0.1356，0.2736）	<0.00001
	Non-severe	0.4207（0.3005，0.5409）	0.0436（0.0224，0.0714）	
Heart failure	Severe	0.8467（0.5114，1.182）	0.1688（0.0640，0.3105）	0.003
	Non-severe	0.2864（0.1189，0.4539）	0.0204（0.0035，0.0506）	

Significant P values indicate heterogeneity between severe cases and non-severe cases by subgroup analysis.
ARDS: Acute Respiratory Distress Syndrome; AKI: Acute Kidney Injury; DIC: Disseminated Intravascular Coagulation.

References

1. Lian J, Jin X, Hao S, Cai H, Zhang S, Zheng L, et al. Analysis of Epidemiological and Clinical Features in Older Patients With Coronavirus Disease 2019 (COVID-19) Outside Wuhan. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America 2020, 71(15): 740-747.

2. Shi S, Qin M, Shen B, Cai Y, Liu T, Yang F, et al. Association of Cardiac Injury With Mortality in Hospitalized Patients With COVID-19 in Wuhan, China. JAMA cardiology 2020, 5(7): 802-810.

3. Guo T, Fan Y, Chen M, Wu X, Zhang L, He T, et al. Cardiovascular Implications of Fatal Outcomes of Patients With Coronavirus Disease 2019 (COVID-19). JAMA cardiology 2020, 5(7): 811-818.

4. Arentz M, Yim E, Klaff L, Lokhandwala S, Riedo FX, Chong M, et al. Characteristics and Outcomes of 21 Critically Ill Patients With COVID-19 in Washington State. Jama 2020, 323(16): 1612-1614.

5. Liu Y, Yang Y, Zhang C, Huang F, Wang F, Yuan J, et al. Clinical and biochemical indexes from 2019-nCoV infected patients linked to viral loads and lung injury. Science China Life sciences 2020, 63(3): 364-374.

6. Fan Y, Guo T, Yan F, Gong M, Zhang XA, Li C, et al. Association of Statin Use With the In-Hospital Outcomes of 2019-Coronavirus Disease Patients: A Retrospective Study. Frontiers in medicine 2020, 7: 584870.

7. Chen T, Wu D, Chen H, Yan W, Yang D, Chen G, et al. Clinical characteristics of 113 deceased patients with coronavirus disease 2019: retrospective study. BMJ (Clinical research ed) 2020, 368: m1091.

8. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. Jama 2020, 323(11): 1061-1069.

9. Yan S, Song X, Lin F, Zhu H, Wang X, Li M, et al. Clinical Characteristics of Coronavirus Disease 2019 in Hainan, China. medRxiv 2020: 2020.2003.2019.20038539.

10. Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, et al. Clinical Characteristics of Coronavirus Disease 2019 in China. The New England journal of medicine 2020, 382(18): 1708-

1720.

11. Goyal P, Choi JJ, Pinheiro LC, Schenck EJ, Chen R, Jabri A, et al. Clinical Characteristics of Covid-19 in New York City. The New England journal of medicine 2020, 382(24): 2372-2374.

12. Zhao XY, Xu XX, Yin HS, Hu QM, Xiong T, Tang YY, et al. Clinical characteristics of patients with 2019 coronavirus disease in a non-Wuhan area of Hubei Province, China: a retrospective study. BMC infectious diseases 2020, 20(1): 311.

13. Xu Y, Li Y-r, Zeng Q, Lu Z-b, Li Y-z, Wu W, et al. Clinical Characteristics of SARS-CoV-2 Pneumonia Compared to Controls in Chinese Han Population. medRxiv 2020: 2020.2003.2008.20031658.

14. Wang D, Yin Y, Hu C, Liu X, Zhang X, Zhou S, et al. Clinical course and outcome of 107 patients infected with the novel coronavirus, SARS-CoV-2, discharged from two hospitals in Wuhan, China. Critical care (London, England) 2020, 24(1): 188.

15. Yang X, Yu Y, Xu J, Shu H, Xia J, Liu H, et al. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. The Lancet Respiratory medicine 2020, 8(5): 475-481.

16. Zhou F, Yu T, Du R, Fan G, Liu Y, Liu Z, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet (London, England) 2020, 395(10229): 1054-1062.

17. Zhang G, Hu C, Luo L, Fang F, Chen Y, Li J, et al. Clinical features and short-term outcomes of 221 patients with COVID-19 in Wuhan, China. Journal of clinical virology : the official publication of the Pan American Society for Clinical Virology 2020, 127: 104364.

18. Cao J, Tu WJ, Cheng W, Yu L, Liu YK, Hu X, et al. Clinical Features and Short-term Outcomes of 102 Patients with Coronavirus Disease 2019 in Wuhan, China. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America 2020, 71(15): 748-755.

19. Wan S, Xiang Y, Fang W, Zheng Y, Li B, Hu Y, et al. Clinical features and treatment of COVID-19 patients in northeast Chongqing. Journal of medical virology 2020, 92(7): 797-806.

20. Liu K, Chen Y, Lin R, Han K. Clinical features of COVID-19 in elderly patients: A comparison with young and middle-aged patients. The Journal of infection 2020, 80(6): e14-e18.

21. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with

2019 novel coronavirus in Wuhan, China. Lancet (London, England) 2020, 395(10223): 497-506.

22. Huang R, Zhu L, Xue L, Liu L, Yan X, Wang J, et al. Clinical findings of patients with coronavirus disease 2019 in Jiangsu province, China: A retrospective, multi-center study. PLoS neglected tropical diseases 2020, 14(5): e0008280.

23. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. Lancet (London, England) 2020, 395(10223): 507-513.

24. Liao J, Fan S, Chen J, Wu J, Xu S, Guo Y, et al. Epidemiological and Clinical Characteristics of COVID-19 in Adolescents and Young Adults. Innovation (New York, NY) 2020, 1(1): 100001.

25. Xi A, Zhuo M, Dai J, Ding Y, Ma X, Ma X, et al. Epidemiological and clinical characteristics of discharged patients infected with SARS-CoV-2 on the Qinghai Plateau. Journal of medical virology 2020, 92(11): 2528-2535.

26. Wang R, Pan M, Zhang X, Han M, Fan X, Zhao F, et al. Epidemiological and clinical features of 125 Hospitalized Patients with COVID-19 in Fuyang, Anhui, China. International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases 2020, 95: 421-428.

27. Qi D, Yan X, Tang X, Peng J, Yu Q, Feng L, et al. Epidemiological and clinical features of 2019-nCoV acute respiratory disease cases in Chongqing municipality, China: a retrospective, descriptive, multiple-center study. medRxiv 2020: 2020.2003.2001.20029397.

28. Jin X, Lian JS, Hu JH, Gao J, Zheng L, Zhang YM, et al. Epidemiological, clinical and virological characteristics of 74 cases of coronavirus-infected disease 2019 (COVID-19) with gastrointestinal symptoms. Gut 2020, 69(6): 1002-1009.

29. Zhang X, Cai H, Hu J, Lian J, Gu J, Zhang S, et al. Epidemiological, clinical characteristics of cases of SARS-CoV-2 infection with abnormal imaging findings. International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases 2020, 94: 81-87.

30. Richardson S, Hirsch JS, Narasimhan M, Crawford JM, McGinn T, Davidson KW, et al. Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area. Jama 2020, 323(20): 2052-2059.

31. Li Y, Hu Y, Yu J, Ma T. Retrospective analysis of laboratory testing in 54 patients with

severe- or critical-type 2019 novel coronavirus pneumonia. Laboratory investigation; a journal of technical methods and pathology 2020, 100(6): 794-800.

32. Li X, Xu S, Yu M, Wang K, Tao Y, Zhou Y, et al. Risk factors for severity and mortality in adult COVID-19 inpatients in Wuhan. The Journal of allergy and clinical immunology 2020, 146(1): 110-118.

33. Qiu C, Deng Z, Xiao Q, Shu Y, Deng Y, Wang H, et al. Transmission and clinical characteristics of coronavirus disease 2019 in 104 outside-Wuhan patients, China. Journal of medical virology 2020, 92(10): 2027-2035.

34. Duan Q, Guo G, Ren Y, Shang H, Du J, Li M, et al. Treatment Outcomes, Influence Factors of 116 Hospitalized COVID-19 Patients with Longer/Prolonged Treatment Course in Wuhan, China. Preprints with The Lancet. Available at SSRN: https://ssrn.com/abstract=3550017

35. Yang F, Shi S, Zhu J, Shi J, Dai K, Chen X. Analysis of 92 deceased patients with COVID-19. Journal of medical virology 2020, 92(11): 2511-2515.

36. Chen T, Dai Z, Mo P, Li X, Ma Z, Song S, et al. Clinical Characteristics and Outcomes of Older Patients with Coronavirus Disease 2019 (COVID-19) in Wuhan, China: A Single-Centered, Retrospective Study. The journals of gerontology Series A, Biological sciences and medical sciences 2020, 75(9): 1788-1795.

37. Feng X, Li P, Ma L, Liang H, Lei J, Li W, et al. Clinical Characteristics and Short-Term Outcomes of Severe Patients With COVID-19 in Wuhan, China. Frontiers in medicine 2020, 7: 491.

38. Li X, Wang L, Yan S, Yang F, Xiang L, Zhu J, et al. Clinical characteristics of 25 death cases with COVID-19: A retrospective review of medical records in a single medical center, Wuhan, China. International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases 2020, 94: 128-132.

39. Zheng Y, Sun LJ, Xu M, Pan J, Zhang YT, Fang XL, et al. Clinical characteristics of 34 COVID-19 patients admitted to intensive care unit in Hangzhou, China. Journal of Zhejiang University Science B 2020, 21(5): 378-387.

40. Huang Y, Yang R, Xu Y, Gong P. Clinical characteristics of 36 non-survivors with COVID-19 in Wuhan, China. medRxiv 2020: 2020.2002.2027.20029009.

41. Zhang B, Zhou X, Qiu Y, Song Y, Feng F, Feng J, et al. Clinical characteristics of 82 cases of

death from COVID-19. PloS one 2020, 15(7): e0235458.

42. Shi Q, Zhao K, Yu J, Jiang F, Feng J, Zhao K, et al. Clinical characteristics of 101 COVID-19 nonsurvivors in Wuhan, China: a retrospective study. medRxiv 2020: 2020.2003.2004.20031039.

43. Deng Y, Liu W, Liu K, Fang YY, Shang J, Zhou L, et al. Clinical characteristics of fatal and recovered cases of coronavirus disease 2019 in Wuhan, China: a retrospective study. Chinese medical journal 2020, 133(11): 1261-1267.

44. Du Y, Tu L, Zhu P, Mu M, Wang R, Yang P, et al. Clinical Features of 85 Fatal Cases of COVID-19 from Wuhan. A Retrospective Observational Study. American journal of respiratory and critical care medicine 2020, 201(11): 1372-1379.

45. Li J, Long X, Luo H, Fang F, Lv X, Zhang D, et al. Clinical characteristics of deceased patients infected with SARS-Cov-2 in Wuhan. Preprints with The Lancet. Available at SSRN: https://ssrn.com/abstract=3546043.

46. Wang L, He W, Yu X, Hu D, Bao M, Liu H, et al. Coronavirus disease 2019 in elderly patients: Characteristics and prognostic factors based on 4-week follow-up. The Journal of infection 2020, 80(6): 639-645.

47. Huang M, Yang Y, Shang F, Zheng Y, Zhao W, Luo L, et al. Clinical Characteristics and Predictors of Disease Progression in Severe Patients with COVID-19 Infection in Jiangsu Province, China: A Descriptive Study. The American journal of the medical sciences 2020, 360(2): 120-128.

48. Ruan Q, Yang K, Wang W, Jiang L, Song J. Clinical predictors of mortality due to COVID-19 based on an analysis of data of 150 patients from Wuhan, China. Intensive care medicine 2020, 46(5): 846-848.

49. Li C, Su Q, Liu J, Chen L, Li Y, Tian X, et al. Comparison of clinical and serological features of RT-PCR positive and negative COVID-19 patients. The Journal of international medical research 2021, 49(2): 300060520972658.

50. Ren D, Ren C, Yao RQ, Feng YW, Yao YM. Clinical features and development of sepsis in patients infected with SARS-CoV-2: a retrospective analysis of 150 cases outside Wuhan, China. Intensive care medicine 2020, 46(8): 1630-1633.

51. Xu X, Yu C, Qu J, Zhang L, Jiang S, Huang D, et al. Imaging and clinical features of patients with 2019 novel coronavirus SARS-CoV-2. European journal of nuclear medicine and molecular

imaging 2020, 47(5): 1275-1280.

52. Abohamr SI, Abazid RM, Aldossari MA, Amer HA, Badhawi OS, Aljunaidi OM, et al. Clinical characteristics and in-hospital mortality of COVID-19 adult patients in Saudi Arabia. Saudi medical journal 2020, 41(11): 1217-1226.

53. Yi H, Lu F, Jin X, Chen R, Liu B, Dong X, et al. Clinical characteristics and outcomes of coronavirus disease 2019 infections among diabetics: A retrospective and multicenter study in China. Journal of diabetes 2020, 12(12): 919-928.

54. Teich VD, Klajner S, Almeida FAS, Dantas ACB, Laselva CR, Torritesi MG, et al. Epidemiologic and clinical features of patients with COVID-19 in Brazil. Einstein (Sao Paulo, Brazil) 2020, 18: eAO6022.

55. Zhao K, Li R, Wu X, Zhao Y, Wang T, Zheng Z, et al. Clinical features in 52 patients with COVID-19 who have increased leukocyte count: a retrospective analysis. European journal of clinical microbiology & infectious diseases : official publication of the European Society of Clinical Microbiology 2020, 39(12): 2279-2287.

56. Bardi T, Pintado V, Gomez-Rojo M, Escudero-Sanchez R, Azzam Lopez A, Diez-Remesal Y, et al. Nosocomial infections associated to COVID-19 in the intensive care unit: clinical characteristics and outcome. European journal of clinical microbiology & infectious diseases : official publication of the European Society of Clinical Microbiology 2021, 40(3): 495-502.

57. Dirim AB, Demir E, Yadigar S, Garayeva N, Parmaksiz E, Safak S, et al. COVID-19 in chronic kidney disease: a retrospective, propensity score-matched cohort study. International urology and nephrology 2021, 53(10): 2117-2125.

58. Hu W, Lv X, Li C, Xu Y, Qi Y, Zhang Z, et al. Disorders of sodium balance and its clinical implications in COVID-19 patients: a multicenter retrospective study. Internal and emergency medicine 2021, 16(4): 853-862.

59. De Angelis G, Posteraro B, Biscetti F, Ianiro G, Zileri Dal Verme L, Cattani P, et al. Confirmed or unconfirmed cases of 2019 novel coronavirus pneumonia in Italian patients: a retrospective analysis of clinical features. BMC infectious diseases 2020, 20(1): 775.

60. Hong L, Ye E, Sun G, Wang X, Zhang S, Wu Y, et al. Clinical and radiographic characteristics, management and short-term outcomes of patients with COVID-19 in Wenzhou, China. BMC infectious diseases 2020, 20(1): 841.

61. Cai H, Yang L, Lu Y, Zhang S, Ye C, Zhang X, et al. High body mass index is a significant risk factor for the progression and prognosis of imported COVID-19: a multicenter, retrospective cohort study. BMC infectious diseases 2021, 21(1): 147.

62. Wang W, Chen L, He Q, Wang M, Liu M, Deng T, et al. Clinical characteristics of inpatients with coronavirus disease 2019 (COVID-19) in Sichuan province. BMC infectious diseases 2021, 21(1): 155.

63. Raparelli V, Palmieri L, Canevelli M, Pricci F, Unim B, Lo Noce C, et al. Sex differences in clinical phenotype and transitions of care among individuals dying of COVID-19 in Italy. Biology of sex differences 2020, 11(1): 57.

64. Wu B, Lei ZY, Wu KL, He JR, Cao HJ, Fu J, et al. Compare the epidemiological and clinical features of imported and local COVID-19 cases in Hainan, China. Infectious diseases of poverty 2020, 9(1): 143.

65. He S, Zhou K, Hu M, Liu C, Xie L, Sun S, et al. Clinical characteristics of "re-positive" discharged COVID-19 pneumonia patients in Wuhan, China. Scientific reports 2020, 10(1): 17365.

66. Feng G, Huang WQ, Liu ML, Lin SC, Zhang XZ, Zhang Y, et al. Clinical Features of COVID-19 Patients in Xiaogan City. SN comprehensive clinical medicine 2020, 2(10): 1717-1723.

67. Tian J, Xu Q, Liu S, Mao L, Wang M, Hou X. Comparison of clinical characteristics between coronavirus disease 2019 pneumonia and community-acquired pneumonia. Current medical research and opinion 2020, 36(11): 1747-1752.

68. Hao SR, Zhang SY, Lian JS, Jin X, Ye CY, Cai H, et al. Liver Enzyme Elevation in Coronavirus Disease 2019: A Multicenter, Retrospective, Cross-Sectional Study. The American journal of gastroenterology 2020, 115(7): 1075-1083.

69. He F, Quan Y, Lei M, Liu R, Qin S, Zeng J, et al. Clinical features and risk factors for ICU admission in COVID-19 patients with cardiovascular diseases. Aging and disease 2020, 11(4): 763-769.

70. Tan X, Zhang S, Xu J, Zhou M, Huang Q, Duan L, et al. Comparison of clinical characteristics among younger and elderly deceased patients with COVID-19: a retrospective study. Aging 2020, 13(1): 16-26.

71. Kutluhan MA, Taş A, Şahin A, Ürkmez A, Topaktas R, Ataç Ö, et al. Assessment of clinical features and renal functions in Coronavirus disease-19: A retrospective analysis of 96 patients.

International journal of clinical practice 2020, 74(12): e13636.

72. Cai Q, Huang D, Ou P, Yu H, Zhu Z, Xia Z, et al. COVID-19 in a designated infectious diseases hospital outside Hubei Province, China. Allergy 2020, 75(7): 1742-1752.

73. Luo H, Liu S, Wang Y, Phillips-Howard PA, Ju S, Yang Y, et al. Age differences in clinical features and outcomes in patients with COVID-19, Jiangsu, China: a retrospective, multicentre cohort study. BMJ open 2020, 10(10): e039887.

74. Wang Z, Ye D, Wang M, Zhao M, Li D, Ye J, et al. Clinical Features of COVID-19 Patients with Different Outcomes in Wuhan: A Retrospective Observational Study. BioMed research international 2020, 2020: 2138387.

75. Yuan H, Liu J, Gao Z, Hu F. Clinical Features and Outcomes of Acute Kidney Injury in Patients Infected with COVID-19 in Xiangyang, China. Blood purification 2021, 50(4-5): 513-519.

76. Pinato DJ, Lee AJX, Biello F, Seguí E, Aguilar-Company J, Carbó A, et al. Presenting Features and Early Mortality from SARS-CoV-2 Infection in Cancer Patients during the Initial Stage of the COVID-19 Pandemic in Europe. Cancers 2020, 12(7).

77. Niu R, Ye S, Li Y, Ma H, Xie X, Hu S, et al. Chest CT features associated with the clinical characteristics of patients with COVID-19 pneumonia. Annals of medicine 2021, 53(1): 169-180.

78. Buckner FS, McCulloch DJ, Atluri V, Blain M, McGuffin SA, Nalla AK, et al. Clinical Features and Outcomes of 105 Hospitalized Patients With COVID-19 in Seattle, Washington. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America 2020, 71(16): 2167-2173.

79. Chen J, Bai H, Liu J, Chen G, Liao Q, Yang J, et al. Distinct Clinical Characteristics and Risk Factors for Mortality in Female Inpatients With Coronavirus Disease 2019 (COVID-19): A Sex-stratified, Large-scale Cohort Study in Wuhan, China. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America 2020, 71(12): 3188-3195.

80. Stefan G, Mehedinti AM, Andreiana I, Zugravu AD, Cinca S, Busuioc R, et al. Clinical features and outcome of maintenance hemodialysis patients with COVID-19 from a tertiary nephrology care center in Romania. Renal failure 2021, 43(1): 49-57.

81. Ussaid A, Riaz B, Rafai W, Anwar S, Baig F, Saleem K, et al. Clinical Characteristics of 47 Death Cases With COVID-19: A Retrospective Study at a Tertiary Center in Lahore. Cureus 2020, 12(12): e12039.

82. Al-Salameh A, Lanoix JP, Bennis Y, Andrejak C, Brochot E, Deschasse G, et al. Characteristics and outcomes of COVID-19 in hospitalized patients with and without diabetes. Diabetes/metabolism research and reviews 2021, 37(3): e3388.

83. Zhang B, Dong C, Li S, Song X, Wei W, Liu L. Triglyceride to High-Density Lipoprotein Cholesterol Ratio is an Important Determinant of Cardiovascular Risk and Poor Prognosis in Coronavirus Disease-19: A Retrospective Case Series Study. Diabetes, metabolic syndrome and obesity : targets and therapy 2020, 13: 3925-3936.

84. Yang X, Cai S, Luo Y, Zhu F, Hu M, Zhao Y, et al. Extracorporeal Membrane Oxygenation for Coronavirus Disease 2019-Induced Acute Respiratory Distress Syndrome: A Multicenter Descriptive Study. Critical care medicine 2020, 48(9): 1289-1295.

85. Xu R, Hou K, Zhang K, Xu H, Zhang N, Fu H, et al. Performance of Two Risk-Stratification Models in Hospitalized Patients With Coronavirus Disease. Frontiers in medicine 2020, 7: 518.

86. Ren C, Yao RQ, Ren D, Li JX, Li Y, Liu XY, et al. The Clinical Features and Prognostic Assessment of SARS-CoV-2 Infection-Induced Sepsis Among COVID-19 Patients in Shenzhen, China. Frontiers in medicine 2020, 7: 570853.

87. Chu H, Bai T, Chen L, Hu L, Xiao L, Yao L, et al. Multicenter Analysis of Liver Injury Patterns and Mortality in COVID-19. Frontiers in medicine 2020, 7: 584342.

88. Hachim MY, Hachim IY, Naeem KB, Hannawi H, Salmi IA, Hannawi S. D-dimer, Troponin, and Urea Level at Presentation With COVID-19 can Predict ICU Admission: A Single Centered Study. Frontiers in medicine 2020, 7: 585003.

89. Yang X, Hu M, Yu Y, Zhang X, Fang M, Lian Y, et al. Extracorporeal Membrane Oxygenation for SARS-CoV-2 Acute Respiratory Distress Syndrome: A Retrospective Study From Hubei, China. Frontiers in medicine 2020, 7: 611460.

90. Peng S, Wang HY, Sun X, Li P, Ye Z, Li Q, et al. Early versus late acute kidney injury among patients with COVID-19-a multicenter study from Wuhan, China. Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association 2020, 35(12): 2095-2102.

91. Huang R, Zhu L, Wang J, Xue L, Liu L, Yan X, et al. Clinical features of COVID-19 patients with non-alcoholic fatty liver disease. Hepatology communications 2020, 4(12): 1758-1768.

92. Fu Y, Zhu R, Bai T, Han P, He Q, Jing M, et al. Clinical Features of Patients Infected With

Coronavirus Disease 2019 With Elevated Liver Biochemistries: A Multicenter, Retrospective Study. Hepatology (Baltimore, Md) 2021, 73(4): 1509-1520.

93. Guo T, Shen Q, Zhou Z, Li J, Guo W, He W, et al. Combined Interventions for Severe Novel Coronavirus Disease (COVID-19): Experience from 350 Patients. Infection and drug resistance 2020, 13: 3907-3918.

94. Topaktaş R, Tokuç E, Ali Kutluhan M, Akyüz M, Karabay E, Çalışkan S. Clinical features and outcomes of COVID-19 patients with benign prostatic hyperplasia in ageing male: A retrospective study of 18 cases. International journal of clinical practice 2020, 74(8): e13574.

95. Zhang J, Cao F, Wu SK, Xiang-Heng L, Li W, Li GS, et al. Clinical characteristics of 31 hemodialysis patients with 2019 novel coronavirus: a retrospective study. Renal failure 2020, 42(1): 726-732.

96. Lian J, Jin X, Hao S, Jia H, Cai H, Zhang X, et al. Epidemiological, clinical, and virological characteristics of 465 hospitalized cases of coronavirus disease 2019 (COVID-19) from Zhejiang province in China. Influenza and other respiratory viruses 2020, 14(5): 564-574.

97. Xu H, Hou K, Xu R, Li Z, Fu H, Wen L, et al. Clinical Characteristics and Risk Factors of Cardiac Involvement in COVID-19. Journal of the American Heart Association 2020, 9(18): e016807.

98. Shi M, Chen L, Yang Y, Zhang J, Xu J, Xu G, et al. Analysis of clinical features and outcomes of 161 patients with severe and critical COVID-19: A multicenter descriptive study. Journal of clinical laboratory analysis 2020, 34(9): e23415.

99. Lim JH, Park SH, Jeon Y, Cho JH, Jung HY, Choi JY, et al. Fatal Outcomes of COVID-19 in Patients with Severe Acute Kidney Injury. Journal of clinical medicine 2020, 9(6).

100.Yang Q, Xie L, Zhang W, Zhao L, Wu H, Jiang J, et al. Analysis of the clinical characteristics, drug treatments and prognoses of 136 patients with coronavirus disease 2019. Journal of clinical pharmacy and therapeutics 2020, 45(4): 609-616.

101. Guo T, Shen Q, Ouyang X, Guo W, Li J, He W, et al. Clinical Findings in Diabetes Mellitus Patients with COVID-19. Journal of diabetes research 2021, 2021: 7830136.

102. Vrillon A, Hourregue C, Azuar J, Grosset L, Boutelier A, Tan S, et al. COVID-19 in Older Adults: A Series of 76 Patients Aged 85 Years and Older with COVID-19. Journal of the American Geriatrics Society 2020, 68(12): 2735-2743.

103. Gao Y, Ma X, Bi J, Chu J, Liu B, Chi C, et al. Epidemiological and clinical differences of coronavirus disease 2019 patients with distinct viral exposure history. Virulence 2020, 11(1): 1015-1023.

104. Zhang B, Huang W, Zhang S. Clinical Features and Outcomes of Coronavirus Disease 2019 (COVID-19) Patients With Chronic Hepatitis B Virus Infection. Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association 2020, 18(11): 2633-2637.

105. Liu C, Wen Y, Wan W, Lei J, Jiang X. Clinical characteristics and antibiotics treatment in suspected bacterial infection patients with COVID-19. International immunopharmacology 2021, 90: 107157.

106. Gao Y, Wang H, Wu J, Jia Q, Chu Q. Prevention, susceptibility, and clinical features of coronavirus disease 2019 in postoperative patients. Asian journal of surgery 2020, 43(12): 1209-1211.

107. Yang L, Liu J, Zhang R, Li M, Li Z, Zhou X, et al. Epidemiological and clinical features of 200 hospitalized patients with corona virus disease 2019 outside Wuhan, China: A descriptive study. Journal of clinical virology : the official publication of the Pan American Society for Clinical Virology 2020, 129: 104475.

108. Liu J, Zhang L, Chen Y, Wu Z, Dong X, Teboul JL, et al. Association of sex with clinical outcomes in COVID-19 patients: A retrospective analysis of 1190 cases. Respiratory medicine 2020, 173: 106159.

109. Zhang Y, Cui Y, Shen M, Zhang J, Liu B, Dai M, et al. Association of diabetes mellitus with disease severity and prognosis in COVID-19: A retrospective cohort study. Diabetes research and clinical practice 2020, 165: 108227.

110. Conway J, Gould A, Westley R, Raju SA, Oklopcic A, Broadbent A, et al. Characteristics of patients with diabetes hospitalised for COVID-19 infection-a brief case series report. Diabetes research and clinical practice 2020, 169: 108460.

111. Jin XH, Zhou HL, Chen LL, Wang GF, Han QY, Zhang JG, et al. Peripheral immunological features of COVID-19 patients in Taizhou, China: A retrospective study. Clinical immunology (Orlando, Fla) 2021, 222: 108642.

112. Zhang L, Zhu F, Xie L, Wang C, Wang J, Chen R, et al. Clinical characteristics of COVID-

19-infected cancer patients: a retrospective case study in three hospitals within Wuhan, China. Annals of oncology : official journal of the European Society for Medical Oncology 2020, 31(7): 894-901.

113. Lei Z, Cao H, Jie Y, Huang Z, Guo X, Chen J, et al. A cross-sectional comparison of epidemiological and clinical features of patients with coronavirus disease (COVID-19) in Wuhan and outside Wuhan, China. Travel medicine and infectious disease 2020, 35: 101664.

114. Tanacan A, Yazihan N, Erol SA, Anuk AT, Yucel Yetiskin FD, Biriken D, et al. The impact of COVID-19 infection on the cytokine profile of pregnant women: A prospective case-control study. Cytokine 2021, 140: 155431.

115. Li Y, Han X, Alwalid O, Cui Y, Cao Y, Liu J, et al. Baseline characteristics and risk factors for short-term outcomes in 132 COVID-19 patients with diabetes in Wuhan China: A retrospective study. Diabetes research and clinical practice 2020, 166: 108299.

116. Chen Y, Chen J, Gong X, Rong X, Ye D, Jin Y, et al. Clinical Characteristics and Outcomes of Type 2 Diabetes Patients Infected with COVID-19: A Retrospective Study. Engineering (Beijing, China) 2020, 6(10): 1170-1177.

117. Liu D, Cui P, Zeng S, Wang S, Feng X, Xu S, et al. Risk factors for developing into critical COVID-19 patients in Wuhan, China: A multicenter, retrospective, cohort study. EClinicalMedicine 2020, 25: 100471.

118. Sim BLH, Chidambaram SK, Wong XC, Pathmanathan MD, Peariasamy KM, Hor CP, et al. Clinical characteristics and risk factors for severe COVID-19 infections in Malaysia: A nationwide observational study. The Lancet regional health Western Pacific 2020, 4: 100055.

119. Zhao J, Zhu M, Su X, Huang M, Yang Y, Huang J, et al. Clinical features and risk factors for severe-critically ill COVID-19 adult patients in Jiangsu, China: A multiple-centered, retrospective study. Medicine 2021, 100(5): e24332.

120. Hansrivijit P, Gadhiya KP, Gangireddy M, Goldman JD. Risk Factors, Clinical Characteristics, and Prognosis of Acute Kidney Injury in Hospitalized COVID-19 Patients: A Retrospective Cohort Study. Medicines (Basel, Switzerland) 2021, 8(1).

121. Nasir N, Farooqi J, Mahmood SF, Jabeen K. COVID-19-associated pulmonary aspergillosis (CAPA) in patients admitted with severe COVID-19 pneumonia: An observational study from Pakistan. Mycoses 2020, 63(8): 766-770.

122. Shah SJ, Barish PN, Prasad PA, Kistler AL, Neff N, Kamm J, et al. Clinical features, diagnostics, and outcomes of patients presenting with acute respiratory illness: a comparison of patients with and without COVID-19. medRxiv 2020.

123. da Silva JF, Hernandez-Romieu AC, Browning SD, Bruce BB, Natarajan P, Morris SB, et al. COVID-19 Clinical Phenotypes: Presentation and Temporal Progression of Disease in a Cohort of Hospitalized Adults in Georgia, United States. Open forum infectious diseases 2021, 8(1): ofaa596.

124. Wong HYF, Lam HYS, Fong AH, Leung ST, Chin TW, Lo CSY, et al. Frequency and Distribution of Chest Radiographic Findings in Patients Positive for COVID-19. Radiology 2020, 296(2): E72-e78.

125. Wang ZH, Shu C, Ran X, Xie CH, Zhang L. Critically Ill Patients with Coronavirus Disease 2019 in a Designated ICU: Clinical Features and Predictors for Mortality. Risk management and healthcare policy 2020, 13: 833-845.

126. Zhang L, Huang B, Xia H, Fan H, Zhu M, Zhu L, et al. Retrospective analysis of clinical features in 134 coronavirus disease 2019 cases. Epidemiology and infection 2020, 148: e199.

127. Nie L, Dai K, Wu J, Zhou X, Hu J, Zhang C, et al. Clinical characteristics and risk factors for in-hospital mortality of lung cancer patients with COVID-19: A multicenter, retrospective, cohort study. Thoracic cancer 2021, 12(1): 57-65.

128. Zhou S, Xu J, Sun W, Zhang J, Zhang F, Zhao X, et al. Clinical Features for Severely and Critically Ill Patients with COVID-19 in Shandong: A Retrospective Cohort Study. Therapeutics and clinical risk management 2021, 17: 9-21.

129. Hong KS, Lee KH, Chung JH, Shin KC, Choi EY, Jin HJ, et al. Clinical Features and Outcomes of 98 Patients Hospitalized with SARS-CoV-2 Infection in Daegu, South Korea: A Brief Descriptive Study. Yonsei medical journal 2020, 61(5): 431-437.

130. Hong JM, Hu LH, Zhong QS, Zhu LC, Hang YP, Fang XY, et al. Epidemiological Characteristics and Clinical Features of Patients Infected With the COVID-19 Virus in Nanchang, Jiangxi, China. Frontiers in medicine 2020, 7: 571069.

131. Cai Q, Huang D, Yu H, Zhu Z, Xia Z, Su Y, et al. COVID-19: Abnormal liver function tests. Journal of hepatology 2020, 73(3): 566-574.

132. Liu W, Liu Y, Xu Z, Jiang T, Kang Y, Zhu G, et al. Clinical characteristics and predictors of the duration of SARS-CoV-2 viral shedding in 140 healthcare workers. Journal of internal

medicine 2020, 288(6): 725-736.

133. Xie L, Hou K, Xu H, Fu H, Xu R, Liu H, et al. Chest CT features and progression of patients with coronavirus disease 2019. The British journal of radiology 2020, 93(1116): 20200219.

134. Shang Y, Xu C, Jiang F, Huang R, Li Y, Zhou Y, et al. Clinical characteristics and changes of chest CT features in 307 patients with common COVID-19 pneumonia infected SARS-CoV-2: A multicenter study in Jiangsu, China. International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases 2020, 96: 157-162.

135. Hafiz M, Icksan AG, Harlivasari AD, Aulia R, Susanti F, Eldinia L. Clinical, Radiological Features and Outcome of COVID-19 patients in a Secondary Hospital in Jakarta, Indonesia. Journal of infection in developing countries 2020, 14(7): 750-757.

136. Gao X, Yang D, Yuan Z, Zhang Y, Li H, Gao P, et al. Improving the early diagnosis of suspected patients with COVID-19: a retrospective study of 106 patients. Journal of infection in developing countries 2020, 14(6): 547-553.

137. Han J, Gong H, Fu L, Chen P, Wang S, Yuan J, et al. Clinical and CT imaging features of SARS-CoV-2 patients presented with diarrhea. The Journal of infection 2020, 81(6): e33-e35.

138. Ippolito D, Pecorelli A, Maino C, Capodaglio C, Mariani I, Giandola T, et al. Diagnostic impact of bedside chest X-ray features of 2019 novel coronavirus in the routine admission at the emergency department: case series from Lombardy region. European journal of radiology 2020, 129: 109092.

139. Meiler S, Schaible J, Poschenrieder F, Scharf G, Zeman F, Rennert J, et al. Can CT performed in the early disease phase predict outcome of patients with COVID 19 pneumonia? Analysis of a cohort of 64 patients from Germany. European journal of radiology 2020, 131: 109256.

140. Zhan N, Guo Y, Tian S, Huang B, Tian X, Zou J, et al. Clinical characteristics of COVID-19 complicated with pleural effusion. BMC infectious diseases 2021, 21(1): 176.

141. Ippolito D, Maino C, Pecorelli A, Allegranza P, Cangiotti C, Capodaglio C, et al. Chest X-ray features of SARS-CoV-2 in the emergency department: a multicenter experience from northern Italian hospitals. Respiratory medicine 2020, 170: 106036.

142. Zhu W, Xie K, Lu H, Xu L, Zhou S, Fang S. Initial clinical features of suspected coronavirus disease 2019 in two emergency departments outside of Hubei, China. Journal of medical virology 2020, 92(9): 1525-1532.

143. Jiang H, Guo W, Shi Z, Jiang H, Zhang M, Wei L, et al. Clinical imaging characteristics of inpatients with coronavirus disease-2019 in Heilongjiang Province, China: a retrospective study. Aging 2020, 12(14): 13860-13868.

144. Zhang R, Ouyang H, Fu L, Wang S, Han J, Huang K, et al. CT features of SARS-CoV-2 pneumonia according to clinical presentation: a retrospective analysis of 120 consecutive patients from Wuhan city. European radiology 2020, 30(8): 4417-4426.

145. Liu M, Zeng W, Wen Y, Zheng Y, Lv F, Xiao K. COVID-19 pneumonia: CT findings of 122 patients and differentiation from influenza pneumonia. European radiology 2020, 30(10): 5463-5469.

146. Liu BM, Yang QQ, Zhao LY, Xie W, Si XY. Epidemiological characteristics of COVID-19 patients in convalescence period. Epidemiology and infection 2020, 148: e108.

147. Luo Z, Wang N, Liu P, Guo Q, Ran L, Wang F, et al. Association between chest CT features and clinical course of Coronavirus Disease 2019. Respiratory medicine 2020, 168: 105989.

148. Sun Y, Dong Y, Wang L, Xie H, Li B, Chang C, et al. Characteristics and prognostic factors of disease severity in patients with COVID-19: The Beijing experience. Journal of autoimmunity 2020, 112: 102473.

149. Duan X, Guo X, Qiang J. A retrospective study of the initial 25 COVID-19 patients in Luoyang, China. Japanese journal of radiology 2020, 38(7): 683-690.

150. Wang J, Zhu X, Xu Z, Yang G, Mao G, Jia Y, et al. Clinical and CT findings of COVID-19: differences among three age groups. BMC infectious diseases 2020, 20(1): 434.

151. Dang JZ, Zhu GY, Yang YJ, Zheng F. Clinical characteristics of coronavirus disease 2019 in patients aged 80 years and older. Journal of integrative medicine 2020, 18(5): 395-400.

152. Vancheri SG, Savietto G, Ballati F, Maggi A, Canino C, Bortolotto C, et al. Radiographic findings in 240 patients with COVID-19 pneumonia: time-dependence after the onset of symptoms. European radiology 2020, 30(11): 6161-6169.

153. Wang M, Guo L, Chen Q, Xia G, Wang B. Typical radiological progression and clinical features of patients with coronavirus disease 2019. Aging 2020, 12(9): 7652-7659.

154. Chen HJ, Qiu J, Wu B, Huang T, Gao Y, Wang ZP, et al. Early chest CT features of patients with 2019 novel coronavirus (COVID-19) pneumonia: relationship to diagnosis and prognosis. European radiology 2020, 30(11): 6178-6185.

155. Zhou Y, Zheng Y, Yang Q, Hu L, Liao J, Li X. Cohort study of chest CT and clinical changes in 29 patients with coronavirus disease 2019 (COVID-19). European radiology 2020, 30(11): 6213-6220.

156. De Vito A, Geremia N, Fiore V, Princic E, Babudieri S, Madeddu G. Clinical features, laboratory findings and predictors of death in hospitalized patients with COVID-19 in Sardinia, Italy. European review for medical and pharmacological sciences 2020, 24(14): 7861-7868.

157. Tabatabaei SMH, Rahimi H, Moghaddas F, Rajebi H. Predictive value of CT in the short-term mortality of Coronavirus Disease 2019 (COVID-19) pneumonia in nonelderly patients: A case-control study. European journal of radiology 2020, 132: 109298.

158. Zhang L, Kong X, Li X, Zhu J, Liu S, Li W, et al. CT imaging features of 34 patients infected with COVID-19. Clinical imaging 2020, 68: 226-231.

159. Feng Y, Ling Y, Bai T, Xie Y, Huang J, Li J, et al. COVID-19 with Different Severities: A Multicenter Study of Clinical Features. American journal of respiratory and critical care medicine 2020, 201(11): 1380-1388.

160. Wu J, Wu X, Zeng W, Guo D, Fang Z, Chen L, et al. Chest CT Findings in Patients With Coronavirus Disease 2019 and Its Relationship With Clinical Features. Investigative radiology 2020, 55(5): 257-261.

161. Ren HW, Wu Y, Dong JH, An WM, Yan T, Liu Y, et al. Analysis of clinical features and imaging signs of COVID-19 with the assistance of artificial intelligence. European review for medical and pharmacological sciences 2020, 24(15): 8210-8218.

162. Huang H, Zhang M, Chen C, Zhang H, Wei Y, Tian J, et al. Clinical characteristics of COVID-19 in patients with preexisting ILD: A retrospective study in a single center in Wuhan, China. Journal of medical virology 2020, 92(11): 2742-2750.

163. Wang J, Xu Z, Wang J, Feng R, An Y, Ao W, et al. CT characteristics of patients infected with 2019 novel coronavirus: association with clinical type. Clinical radiology 2020, 75(6): 408-414.

164. Li Y, Xia L. Coronavirus Disease 2019 (COVID-19): Role of Chest CT in Diagnosis and Management. AJR American journal of roentgenology 2020, 214(6): 1280-1286.

165. Zhou S, Wang Y, Zhu T, Xia L. CT Features of Coronavirus Disease 2019 (COVID-19) Pneumonia in 62 Patients in Wuhan, China. AJR American journal of roentgenology 2020, 214(6): 1287-1294.

166. Ieong CM, Xu X, Kong SC, Luo L. Evaluation of chest CT and clinical features of COVID-19 patient in Macao. European journal of radiology open 2020, 7: 100275.

167. Zhao W, Zhong Z, Xie X, Yu Q, Liu J. CT Scans of Patients with 2019 Novel Coronavirus (COVID-19) Pneumonia. Theranostics 2020, 10(10): 4606-4613.

168. Lin YH, Luo W, Wu DH, Lu F, Hu SX, Yao XY, et al. Comparison of clinical, laboratory, and radiological characteristics between SARS-CoV-2 infection and community-acquired pneumonia caused by influenza virus: A cross-sectional retrospective study. Medicine 2020, 99(44): e23064.

169. Liu D, Zhang W, Pan F, Li L, Yang L, Zheng D, et al. The pulmonary sequalae in discharged patients with COVID-19: a short-term observational study. Respiratory research 2020, 21(1): 125.

170. Zhang J, Ding D, Huang X, Zhang J, Chen D, Fu P, et al. Differentiation of COVID-19 from seasonal influenza: A multicenter comparative study. Journal of medical virology 2021, 93(3): 1512-1519.

171. Gao J, Zhang S, Zhou K, Zhao X, Liu J, Pu Z. Epidemiological and clinical characteristics of patients with COVID-19 from a designated hospital in Hangzhou City: a retrospective observational study. Hong Kong medical journal = Xianggang yi xue za zhi 2022, 28(1): 54-63.

172. Jiang J, Wan R, Pan P, Hu C, Zhou R, Yin Y, et al. Comparison of Clinical, Laboratory and Radiological Characteristics Between COVID-19 and Adenovirus Pneumonia: A Retrospective Study. Infection and drug resistance 2020, 13: 3401-3408.

173. Wang D, Wang Y, Zhang Q, Jin B, Wen Q, Du F, et al. Clinical and computed tomography features in patients with coronavirus disease 2019. Experimental and therapeutic medicine 2021, 21(2): 129.

174. Hu X, Zeng W, Zhang Y, Zhen Z, Zheng Y, Cheng L, et al. CT imaging features of different clinical types of COVID-19 calculated by AI system: a Chinese multicenter study. Journal of thoracic disease 2020, 12(10): 5336-5346.

175. Cobb NL, Sathe NA, Duan KI, Seitz KP, Thau MR, Sung CC, et al. Comparison of Clinical Features and Outcomes in Critically Ill Patients Hospitalized with COVID-19 versus Influenza. Annals of the American Thoracic Society 2021, 18(4): 632-640.

176. Shayganfar A, Sami R, Sadeghi S, Dehghan M, Khademi N, Rikhtehgaran R, et al. Risk factors associated with intensive care unit (ICU) admission and in-hospital death among adults hospitalized with COVID-19: a two-center retrospective observational study in tertiary care

hospitals. Emergency radiology 2021, 28(4): 691-697.

177. Sahin D, Tanacan A, Erol SA, Anuk AT, Eyi EGY, Ozgu-Erdinc AS, et al. A pandemic center's experience of managing pregnant women with COVID-19 infection in Turkey: A prospective cohort study. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 2020, 151(1): 74-82.

178. Sahin D, Tanacan A, Erol SA, Anuk AT, Yetiskin FDY, Keskin HL, et al. Updated experience of a tertiary pandemic center on 533 pregnant women with COVID-19 infection: A prospective cohort study from Turkey. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 2021, 152(3): 328-334.

179. Zhu Q, Zhang W, Wang Q, Liu JH, Wu CH, Luo T, et al. [Clinical characteristics and outcome of 64 patients with severe COVID-19]. Zhonghua jie he he hu xi za zhi = Zhonghua jiehe he huxi zazhi = Chinese journal of tuberculosis and respiratory diseases 2020, 43(8): 659-664.

180. Wu J, Li J, Zhu G, Zhang Y, Bi Z, Yu Y, et al. Clinical Features of Maintenance Hemodialysis Patients with 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. Clinical journal of the American Society of Nephrology : CJASN 2020, 15(8): 1139-1145.

181. Liu D, Wang Y, Wang J, Liu J, Yue Y, Liu W, et al. Characteristics and Outcomes of a Sample of Patients With COVID-19 Identified Through Social Media in Wuhan, China: Observational Study. Journal of medical Internet research 2020, 22(8): e20108.