

Supplementary Table 1. Baseline characteristics of cancer patients with COVID-19

	No. (%)			<i>P</i> Value
	Total (N=112)	Alive (N=94)	Death (N=18)	
Age, median (IQR), y	62.95±15.7 0	62.85±15.80	63.44±15.66	0.884
Sex				
Female	52 (46.4)	46 (48.9)	6 (33.3)	0.224
Male	60 (53.6)	48 (51.1)	12 (66.7)	
Tumor nature				
Solid tumor	90 (80.4)	76 (80.9)	14 (77.8)	>0.99
Non-Solid tumor	22 (19.6)	18 (19.1)	4 (22.2)	
Tumor diagnosis				
Lung cancer	23 (20.5)	20 (21.3)	3 (16.7)	0.9
Breast cancer	11 (9.8)	11 (11.7)	0 (0)	0.273
Leukemia	11 (9.8)	10 (10.6)	1 (5.6)	0.817
Colon cancer	10 (8.9)	10 (10.6)	0 (0)	0.318
Liver cancer	9 (8.0)	7 (7.4)	2 (11.1)	0.96
Gastric cancer	6 (5.4)	2 (2.1)	4 (22.2)	0.006
Thyroid cancer	7 (6.3)	6 (6.4)	1 (5.6)	>0.99
Cervical cancer	4 (3.6)	4 (4.3)	0 (0)	>0.99
Rectum cancer	4 (3.6)	4 (4.3)	0 (0)	>0.99
Myeloma	5 (4.5)	4 (4.3)	1 (5.6)	>0.99
Lymphoma	4 (3.6)	3 (3.2)	1 (5.6)	0.509
Bladder cancer	5 (4.5)	5 (5.3)	0 (0)	>0.99
Pancreatic cancer	1 (0.9)	0 (0)	1 (5.6)	0.161
Nasopharynx cancer	2 (1.8)	2 (2.1)	0 (0)	>0.99
Ovarian cancer	2 (1.8)	2 (2.1)	0 (0)	>0.99

Myelodysplastic syndrome	2 (1.8)	1 (1.1)	1 (5.6)	0.297
Prostate cancer	2 (1.8)	1 (1.1)	1 (5.6)	0.297
Esophageal cancer	1 (0.9)	1 (1.1)	0 (0)	>0.99
Oral Cancer	1 (0.9)	0 (0)	1 (5.6)	0.161
Meningioma	1 (0.9)	1 (1.1)	0 (0)	>0.99
Osteosarcoma	1 (0.9)	1 (1.1)	0 (0)	>0.99
Laryngeal cancer	1 (0.9)	1 (1.1)	0 (0)	>0.99
Penile cancer	1 (0.9)	1 (1.1)	0 (0)	>0.99
Skin cancer	1 (0.9)	0 (0)	1 (5.6)	0.161
Comorbidities				
Number of Comorbidities per patient > 2	27 (24.1)	17 (18.1)	10 (55.6)	0.002
Hypertension	33 (29.5)	29 (30.9)	4 (22.2)	0.462
Common pulmonary infection	4 (3.6)	2 (2.1)	2 (11.1)	0.121
Diabetes	20 (17.9)	19 (20.2)	1 (5.6)	0.249
Chronic lung disease	10 (8.9)	7 (7.4)	3 (16.7)	0.42
Cardiovascular disease	10 (8.9)	7 (7.4)	3 (16.7)	0.42
Chronic bronchitis	8 (7.1)	5 (5.3)	3 (16.7)	0.225
Hepatitis	7 (6.3)	6 (6.4)	1 (5.6)	>0.99
Cerebrovascular disease	4 (3.6)	2 (2.1)	1 (11.1)	0.121
Arrhythmia	4 (3.6)	2 (2.1)	2 (11.1)	0.121
Anemia	5 (4.5)	3 (3.2)	2 (11.1)	0.182
Pleural effusion	4 (3.6)	2 (2.1)	2 (11.1)	0.121
Hypoproteinemia	4 (3.6)	2 (2.1)	2 (11.1)	0.121

Abnormal thyroid function	1 (0.9)	1 (1.1)	0 (0)	>0.99
Gastritis	3 (2.7)	1 (1.1)	2 (11.1)	0.067
Chronic kidney disease	3 (2.7)	1 (1.1)	2 (11.1)	0.067
Cancer treatment (<28 days)				
Chemotherapy	12 (10.7)	7 (7.4)	5 (27.8)	0.032
Radiotherapy	4 (3.6)	2 (2.1)	2 (11.1)	0.121
Surgery	8 (7.1)	6 (6.4)	2 (11.1)	0.83
Targeted therapy	4 (3.6)	3 (3.2)	1 (11.1)	0.509
Severity of COVID-19				
Moderate	14 (12.5)	14 (14.9)	0 (0)	
Severe	58 (51.8)	58 (61.7)	0 (0)	<0.001
Critical	40 (35.7)	22 (13.4)	18 (100.0)	

P values indicate differences between surviving patients and non-surviving patients; *P* < 0.05 was considered statistically significant.

Supplementary Table 2. Laboratory parameters of COVID-19 patients

Laboratory Parameters	Normal Range	Median (IQR)		<i>P</i> Value
		COVID-19 patients without cancer (N=105)	Cancer patients with COVID-19 (N=112)	
Erythrocyte count, ×10 ¹² /L	4.3-5.8	3.96 (3.56-4.29)	3.77 (3.21-4.09)	0.008
Hemoglobin count, g/L	130-175	123.00 (114.00-136.00)	114.00 (102.00-128.00)	0.001
Platelet count, ×10 ⁹ /L	125-350	199.00 (143.00-257.00)	189.00 (127.50-273.50)	0.605
White blood cell count, ×10 ⁹ /L	3.5-9.5	4.99 (4.05-7.00)	5.88 (4.44-8.57)	0.069
Lymphocyte count, ×10 ⁹ /L	1.1-3.2	1.14 (0.82-1.61)	0.99 (0.68-1.56)	0.116
Neutrophil count, ×10 ⁹ /L	1.8-6.3	3.20 (2.42-4.75)	3.95 (2.73-6.04)	0.038
Monocyte count, ×10 ⁹ /L	0.1-0.6	0.48 (0.35-0.66)	0.42 (0.29-0.63)	0.12
Aspartate aminotransferase, U/L	8-40	26.50 (21.00-39.75)	30.00 (20.00-47.50)	0.455
Alanine aminotransferase, U/L	5-40	25.50 (19.00-40.75)	25.00 (18.00-40.00)	0.794
Alkaline phosphatase, U/L	40-150	67.00 (52.25-82.00)	77.00 (62.00-114.00)	0.001
Creatinine, μmol/L	44-133	75.00 (61.18-92.00)	64.65 (53.95-79.83)	0.001
Creatine kinase, U/L	38-174	78.00 (51.00-140.25)	63.00 (41.00-93.00)	0.022
Lactate dehydrogenase, U/L	109-245	229.50 (173.25-291.75)	230.00 (187.00-353.00)	0.187
CK-MB, ng/ml	<6.6	0.70 (0.40-1.20)	0.70 (0.40-1.38)	0.5
Troponin I, ng/L	<26.2	4.65 (1.60-10.25)	5.05 (2.20-12.88)	0.687
Fibrinogen, g/l	2.0-4.0	4.64±1.33	4.30±1.45	0.081 [#]
D-dimer, mg/L	<0.50	0.70 (0.33-1.59)	0.92 (0.22-2.39)	0.988
Procalcitonin, μg/L	<0.5	0.04 (0.02-0.88)	0.14 (0.03-0.54)	0.001
CRP, mg/L	<8.00	10.95 (1.55-42.18)	35.10 (5.68-81.90)	0.001

IL-6, pg/ml	0.10-2.90	12.30 (5.48-28.22)	18.21 (8.07-42.45)	0.484
TNF- α , pg/ml	0.10-23.00	2.42 (2.06-3.91)	2.62 (2.02-3.52)	0.874
IL-4, pg/ml	0.10-3.20	2.21 (1.67-3.21)	2.26 (1.59-3.32)	0.784
IL-2, pg/ml	0.10-4.10	2.70 (2.47-3.12)	2.69 (2.37-3.41)	0.471
IL-10, pg/ml	0.10-5.00	3.81 (3.11-5.63)	4.17 (2.78-5.65)	0.989
IFN- γ , pg/ml	0.10-18.00	2.39 (1.86-3.02)	2.15 (1.57-3.27)	0.192
CD4/CD8 ratio, %	0.41-2.72	1.87 (1.40-2.80)	1.70 (1.04-2.37)	0.052

Abbreviations: IQR, interquartile range; CRP, C-Reactive Protein; CKMB, Creatine Kinase-MB. P Value indicate differences between COVID-19 patients without cancer and cancer patients with COVID-19; P<0.05 was considered statistically significant. # Indicates that the SK normality test follows the normal distribution.

Supplementary Table 3. Baseline characteristics of COVID-19 patients

	No. (%)		<i>P</i> Value
	COVID-19 patients without cancer (N=105)	COVID-19 patients with cancer (N=112)	
Age, median (IQR), y	68.0 (57.0-73.5)	65.0 (57.25-72.75)	0.255
Sex			
Female	51 (45.8)	52 (46.4)	0.752
Male	54 (54.2)	60 (53.6)	
Comorbidities			
Number of Comorbidities per patient > 2	31 (29.5)	27 (24.1)	0.368
Hypertension	46 (43.8)	33 (29.5)	0.028
Diabetes	33 (31.4)	20 (17.9)	0.02
Cardiovascular disease	20 (19.0)	10 (8.9)	0.031
Chronic lung disease	5 (4.8)	10 (8.9)	0.227
Chronic bronchitis	1 (1.0)	8 (7.1)	0.036
Hepatitis B	3 (2.9)	7 (6.3)	0.386
Common pulmonary infection	3 (2.9)	4 (3.6)	>0.99
Anemia	1 (1.0)	5 (4.5)	0.214
Arrhythmia	3 (2.9)	4 (3.6)	>0.99
Cerebrovascular disease	6 (5.7)	4 (3.6)	0.668
Pleural effusion	0 (0)	4 (3.6)	0.122
Hyperlipidemia	6 (5.7)	3 (2.7)	0.32
Chronic kidney disease	5 (4.8)	3 (2.7)	0.488
Severity of COVID-19			

Mild	0 (0)	0(0)	<0.001
Moderate	44 (41.9)	14 (12.5)	
Severe	45 (42.9)	58 (51.8)	
Critical	16 (15.2)	40 (35.7)	
Clinical Outcomes			
Cure	101 (96.2)	94 (83.9)	0.003
Death	4 (3.8)	18 (16.1)	

P Value indicate differences between COVID-19 patients without cancer and cancer patients with COVID-19; P<0.05 was considered statistically significant.

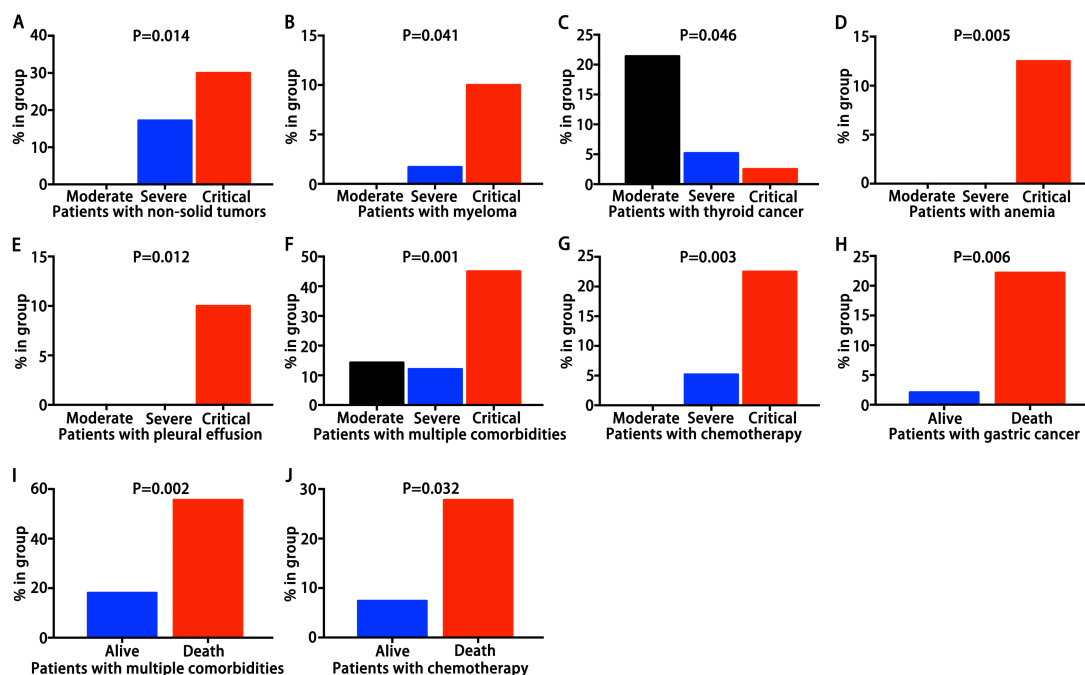


Figure legend. Supplementary Figure 1. Analysis of the correlation between clinical factors and severity and adverse clinical outcomes in cancer patients with COVID-19. A. Analysis of the correlation between non-solid tumors and severity. B. Analysis of the correlation between myeloma and severity. C. Analysis of the correlation between thyroid cancer and severity. D. Analysis of the correlation between comorbid anemia and severity. E. Analysis of the correlation between pleural effusion and severity. F. Analysis of correlation between multiple comorbidities and severity. G.

Analysis of the correlation between chemotherapy and severity. H. Analysis of the correlation between gastric cancer and adverse clinical outcomes. I. Analysis of the correlation between multiple comorbidities and adverse clinical outcomes. J. Analysis of the correlation between chemotherapy and adverse clinical outcomes.