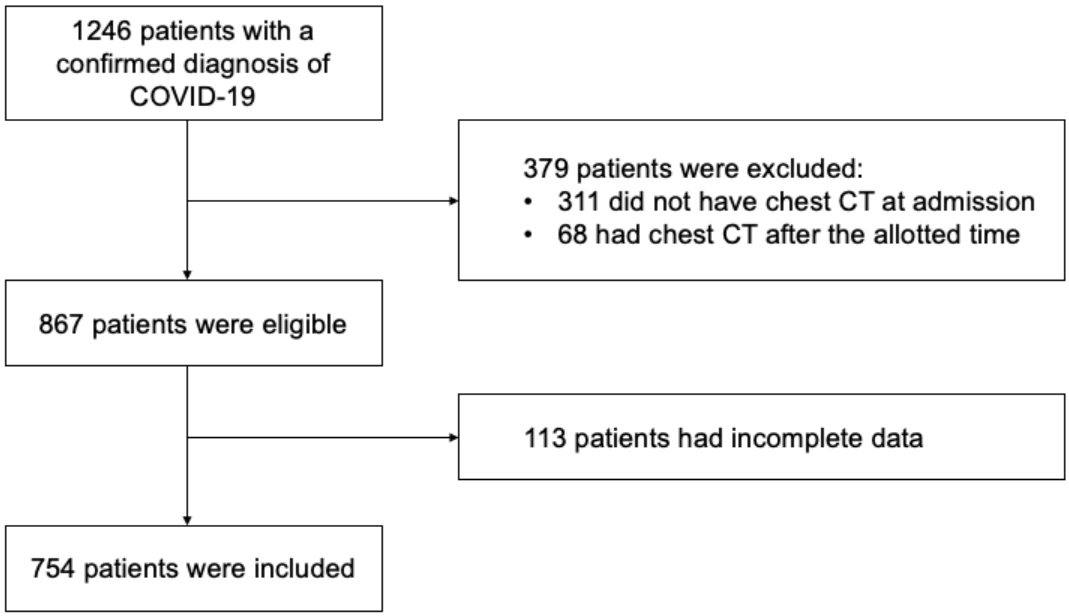
Supplementary Figure 1: Flowchart of patients included in the study



Supplementary Table 1 Clinical and demographic characteristics of the study population

General characteristics	**N = 754**	**Comorbidities**	**N = 754**
Age in years [a]	56.3 ± 14.7	Hypertension	379 (50.3%)
Distribution by age group in years		Diabetes Mellitus	238 (31.6%)
- 18 – 39	108 (14.3%)	Obesity	224 (29.7%)
- 40 – 49	136 (18.0%)	Chronic heart disease	132 (17.5%)
- 50 – 59	192 (25.5%)	Chronic lung disease	110 (14.6%)
- 60 – 69	176 (23.3%)	Coronary artery disease	63 (8.4%)
- 70 – 79	100 (13.3%)	COPD	48 (6.4%)
- 80 or more	42 (5.6%)	Chronic kidney disease	34 (4.5%)
Male sex	390 (51.7%)	Active cancer	33 (4.4%)
		Chronic liver disease	8 (1.1%)
COVID-19 Diagnosis			
Positive RT-PCR for COVID-19 (N = 731)	708 (93.9%)	**Number of comorbidities**	
Positive IgM Serology (N = 754)	156 (20.7%)	None	143 (19.0%)
Positive IgG Serology (N = 754)	150 (19.9%)	1	175 (23,21%)
Days of symptoms at hospitalization [b] (N = 748)	8 (6-11)	2 or more	436 (57,82%)
Days of symptoms at tomography [b] (N = 748)	9 (6-11)		
Hospitalization	**N = 754**	**Laboratory tests**	
Ward	685 (90.8%)	Lymphocytes [b] ($x10^3$ / uL)	870 (556 - 1284)
ICU	274 (36.3%)	C-reactive protein [b] (mg / dL)	7 (3.34 – 13.5)
Invasive mechanical ventilation	171 (22.7%)	Ferritin [b] (ng/mL)	952 (426 – 1676)
Days of hospitalization [c]	7 (0-131, 4-13)	LDH [b] (U/L)	349 (270 – 465)
- days in the ward [c]	5 (1-65, 3-9)	D-dimer [b] (mg / L FEU)	0.9 (0.51 - 2.0)
- days in the ICU [c]	10 (1-82, 4-19)	Albumin [a] (g / dL)	3.6 ± 0.5
		Procalcitonin [b] (ng / mL)	0.1 (0.06 – 0.54)
In-hospital death	**N = 754**	High-sensitivity cardiac troponin [b] (pg / mL)	10 (10 – 14.3)
General death (N = 754)	130 (17,2%)		
Death in ICU (N = 274)	120 (43.7%)		
Death in MV (N = 171)	111 (64.9%)		

MV: invasive mechanical ventilation

Data reported in n (%), except when indicated otherwise. [a] mean ± standard deviation; [b] median (IQR); [c] median (min - max, IQR).

Supplementary Table 2 Factors associated with the need for invasive mechanical ventilation

Clinical characteristics	**N**	**No MV**	**MV**	**OR**	**CI95%**	**p***
Age ≥ 60 years old	318	213 (67.0%)	105 (33.0%)	2.76	1.95 – 3.93	**<0.001**
Male sex	390	301 (77.2%)	89 (22.8%)	1.02	0.72 - 1.43	0.924
Smoking history	177	119 (67.2%)	58 (32.8%)	2.12	1.41 - 3.19	**<0.001**
Obesity	224	169 (75.4%)	55 (24.6%)	1.16	0.80 - 1.68	0.424
Hypertension	379	280 (73.9%)	99 (26.1%)	1.49	1.05 - 2.10	**0.024**
Diabetes Mellitus	238	171 (71.8%)	67 (28.2%)	1.55	1.09 - 2.21	**0.015**
Coronary artery disease	63	43 (68.3%)	20 (31.7%)	1.66	0.95 - 2.91	0.075
COPD	48	32 (66.7%)	16 (33.3%)	1.78	0.95 - 3.32	0.072
Chronic heart disease	132	93 (70.5%)	39 (29.5%)	1.44	0.87 - 2.37	**0.039**
Chronic lung disease	110	90 (72.7%)	30 (27.3%)	1.34	0.85 - 2.12	0.214
Chronic liver disease	8	3 (37.5%)	5 (62.5%)	5.82	1.38 - 24.6	**0.017**
Chronic kidney disease	34	21 (61.8%)	13 (38.2%)	2.2	1.08 - 4.50	**0.03**
Active cancer	33	21 (63.6%)	12 (36.4%)	2.02	0.97 - 4.19	0.059
Laboratory tests	**N**	**No MV**	**MV**	**OR**	**CI95%**	**p***
Lymphocytes [a,b]	753	582, 935.5 (5,810-1,363)	171, 741 (518 - 1,013)	0.91	0.88 - 0.95	**<0.001**
C-reactive protein [b]	738	567, 6.3 (2.8-11.6)	171, 11.7 (5.7-16)	1.12	1.08 - 1.16	**<0.001**
Ferritin [b]	641	477, 832.2 (389 – 1676)	164, 1368 (660 – 1676)	1.07	1.04 - 1.10	**<0.001**
LDH [b]	628	470, 328 (259 – 425)	158, 420.5 (319 – 613)	1.47	1.32 - 1.64	**<0.001**
D-Dimer [b]	706	539, 0.8 (0.5-1.7)	167, 1.4 (0.7-3.3)	1.02	0.99 - 1.04	0.124
Albumin [c]	621	471, 3.6 ± 0.4	159, 3.3 ± 0.6	0.26	0.18 - 0.39	**<0.001**
Procalcitonin [b]	177	82, 0.1 (0 - 0.1)	95, 0.3 (0.1-1.2)	2.47	1.36 - 4.47	**0.003**
Cardiac troponin [a,b]	570	415, 10 (10-10)	155, 10.6 (10 - 52.2)	1	0.98 - 1.03	0.659
Chest CT	**N**	**No MV**	**MV**	**OR**	**CI95%**	**p***
Lung involvement area						
≤75%[d]	588	488 (83.0%)	100 (17.0%)			
>75%	161	90 (55.9%)	71 (44.1%)	3.85	2.64 - 5.62	**<0.001**
Dominant Pattern						
Ground-glass opacity [d]	397	39 (73.6%)	14 (26.4%)			
Mixed	205	162 (79.0%)	43 (21.0%)	0.96	0.64 – 1.45	0.846
Crazy paving	81	55 (67.9%)	26 (32.1%)	1.71	1.01 – 2.89	**0.045**
Consolidation	53	311 (78.3%)	86 (21.7%)	1.30	0.67 – 2.50	0.435
Pleural effusion	87	52 (59.8%)	35 (40.2%)	2.63	1.65 – 4.20	**<0.001**
Lymph node enlargement	158	116 (73.4%)	42 (26.6%)	1.31	0.88 - 1.96	0.188
PAD (mm)[c]	754	583, 27.3 ± 4.1	171, 28.6 ± 4.3	1.07	1.03 - 1.12	**<0.001**
Independent predictors of invasive mechanical ventilation (multivariate analysis)[#]						
	OR	**CI95%**	**p***			
Age ≥ 60 years old	2.55	1.73 – 3.74	**<0.001**			
Chronic liver disease	7.54	1.52 – 37.38	**0.013**			
Lymphocytes [a]	0.94	0.91 – 0.98	**0.003**			
C-reactive protein	1.09	1.05 – 1.13	**<0.001**			
Lung involvement > 75%	2.06	1.37 – 3.09	**<0.001**			
PAD enlargement	1.042	0.997 – 1.09	0.066			
Pleural effusion	2.14	1.27 – 3.61	**0.004**			

* Logistic regression model and Wald test, p<0.05; [a] *OR corresponds to each increment of 100 units of the variable;* [b] *n, median (IQR),* [c] *n, mean ± standard deviation;* [d] *reference variable*

[#] *Variables initially included in the model: age ≥ 60 years old, chronic heart disease, chronic kidney disease, chronic liver disease, hypertension, diabetes, C-reactive protein, lymphocytes, lung parenchyma involvement > 75%, pleural effusion and pulmonary artery diameter.*