

Supplementary Material

Table S1. COVID-19 Characteristics

Variable	All (n=105)	Survivors (n=80)	Non-survivors (n=21)	p
Intubation at onset (%) (n=151)	132 (87.4)	101 (84.2)	31 (100)	0.014
Days from symptom onset to hospitalization (n=129)	9.9 ± 5.7	9.6 ± 4.4	11.1 ± 9.2	0.376
Days of intrahospital stay (n=109)	30.5 ± 18.2	31.6 ± 19.1	26.6 ± 13.7	0.228
Intubation days (n=90)	24.9 ± 14.5	25.5 ± 15.7	23.2 ± 14.5	0.411
S _O ₂ in Emergency	64.9 ± 18.2	65.9 ± 18.7	60.7 ± 15.6	0.149
Previous Treatment (%)				
Azithromycin	38 (36.5)	31 (38.3)	7 (30.4)	0.491
Ceftriaxone	26 (25)	22 (27.2)	4 (17.4)	0.422
Other antibiotics	46 (43.8)	36 (43.9)	10 (43.5)	0.971
Ivermectin	23 (22.1)	18 (22.2)	5 (21.7)	0.961
Antiviral	15 (13.6)	12 (13.8)	3 (13)	1.00
Dexamethasone	20 (19.2)	17 (21)	3 (13)	0.553
Paracetamol	54 (51.4)	42 (51.2)	12 (52.2)	0.935
Antiviral + other antibiotics	4 (8.9)	2 (5.7)	2 (20)	0.209
Azithromycin + antiviral	7 (18.4)	7 (22.6)	0	0.309
SIRA classification (%)				
1	18 (22.5)	17 (28.8)	1 (4.8)	
2	39 (48.8)	30 (50.9)	9 (42.9)	0.009
3	23 (28.8)	12 (20.3)	11 (52.4)	
Enoxaparine doses (mg)	50.4 ± 20.4	51.3 ± 21	47.2 ± 18.1	0.378
Symptoms of disease (%)				
Dyspnea	139 (96.5)	110 (96.5)	29 (96.7)	1
Cough	62 (65.5)	76 (67.3)	17 (58.6)	0.383
Thoracic pain	20 (14.1)	17 (15.0)	3 (10.3)	0.765
Fatigue	81 (57.0)	65 (57.5)	16 (55.2)	0.820
Sputum	19 (13.4)	17 (15)	2 (6.9)	0.364
Fever	113 (80.1)	86 (75.5)	27 (90)	0.196
Odynophagia	56 (39.4)	43 (38.1)	13 (44.8)	0.505
Headache	60 (42.3)	45 (39.8)	15 (51.7)	0.247
Diarrhea	16 (11.3)	13 (11.5)	3 (10.3)	1
Conjunctivitis	2 (1.4)	1 (0.9)	1 (3.5)	0.368
Anosmia	6 (4.3)	6 (5.4)	0	0.346
Ageusia	3 (2.1)	2 (2.7)	0	1
Myalgias	107 (75.4)	83 (73.5)	24 (82.8)	0.345
Arthralgias	94 (66.2)	71 (62.8)	23 (79.3)	0.094

Chi square or F fisher test was done for qualitative variables; Student's t or Mann-Whitney U for quantitative variables.

Table S2. Characteristics of the patients at baseline.

Variable	All (n=105)	Women (n=37)	Men (n=68)	p
Age (years)	64 (50 – 76)	74 (63-78)	58 (46.5-72.5)	<0.001
Height (cm)	1.6 (1.53 – 1.7)	1.52 (1.49-1.55)	1.67 (1.6-1.7)	<0.001
Weight (kg)	69 (58 – 83)	64 (52-70)	72.5 (61.5-86)	0.003
BMI (kg/m ²)	27.44±6.62	27.86±6.66	27.21±6.64	0.633
Underweight <18,5 (kg/m ²)	5 (4.9)	2 (5.4)	3 (4.5)	
Normal ≥18,5- 24.9.	35 (33.9)	10 (27.0)	25 (37.9)	
Overweight ≥ 25-29.9	34 (33.0)	14 (37.8)	20 (30.3)	0.720
Obese ≥30	29 (28.2)	11 (29.7)	18 (27.3)	
FiO ₂	73.31 ±13.60	70.90±14.51	74.64±12.99	0.204
Comorbidities n (%)				
Diffuse Interstitial pulmonary disease	13 (13.40)	9 (26.47)	4 (6.35)	0.010
Cancer	7 (6.80)	3 (8.11)	4 (6.06)	0.700
Chronic renal disease	8 (7.77)	1 (2.70)	7 (10.61)	0.253
Obstructive Sleep Apnea	7 (6.73)	1 (2.70)	6 (8.96)	0.417
Pulmonary Hypertension	3 (2.88)	2 (5.41)	1 (1.49)	0.288
Biomass exposure	23 (22.33)	11 (30.56)	12 (17.91)	0.142
COPD	9 (8.57)	6 (16.22)	3 (4.41)	0.064
Obesity	28 (26.67)	11 (29.73)	17 (25)	0.601
Systemic Arterial Disease	47 (45.63)	17 (45.95)	30 (45.45)	1.000
Diabetes Mellitus	38 (37.62)	14 (38.89)	24 (36.92)	1.000
COVID-19 vaccination	65 (65.66)	27 (72.97)	38 (61.29)	0.236
Smoker				
Current	11 (11)	3 (8.3)	8 (12.7)	0.001
Ex smoker	36 (36.4)	5 (13.9)	31 (49.2)	
Intrahospital shock	21 (35.59)	5 (26.32)	16 (40)	0.305
Invasive Mechanical Ventilation	63 (61.76)	21 (58.33)	42 (63.64)	0.598
Pneumonia associated with IMV	31 (48.44)	11 (55)	20 (45.45)	0.479
Acute kidney injury	58 (63.74)	18 (56.25)	40 (67.80)	0.274
Hemodialysis	8 (10.26)	0 (0)	8 (15.09)	0.049
ACE	13 (13.27)	3 (8.57)	10 (15.87)	0.368
ARBs	22 (22.45)	11 (31.43)	11 (17.46)	0.112
Beta- Blockers	11 (11.34)	3 (8.57)	8 (12.9)	0.741
Calcium channel blockers	12 (12.37)	3 (8.57)	9 (14.52)	0.528

ACE Angiotensin converting-enzyme inhibitor, **ARBs** Angiotensin II Receptor Blockers, **BMI** Body Mass Index, **COPD** Chronic Obstructive Pulmonary Disease, **IMV** Invasive Mechanical Ventilation.

Table S3. Echocardiographic parameters according to sex

	All (n=105)	Women (n=37)	Men (n=68)	p
HFrEF (LVEF<40%) n(%)	11 (11.5)	2 (6.3)	9 (14.1)	0.327
HFmEF (LVEF>40%-<50%)	4 (4.1)	3 (9.4)	1 (1.6)	0.109
HFpEF (LVEF>50%)	81 (84.4)	27 (84.4)	54 (84.4)	1.000
HFpEF + RHF	18 (18.8)	8 (25)	10 (15.6)	0.526
RHF	22 (24.4)	8 (24.2)	14 (24.6)	0.973
BSA	1.73 (1.54-1.90)	1.60 (1.45-1.73)	1.82 (1.65-2.00)	<0.0001
Heart rate	83.2 ± 20.4	79.6 ± 16.2	85.1 ± 22.2	0.242
Left Ventricle				
LV systolic diameter (cm)	2.64 ± 0.73	2.39 ± 0.60	2.77 ± 0.76	0.013
LV diastolic diameter (cm)	4 (3.57-4.54)	3.7 (3.3-4.4)	4.04 (3.7-4.7)	0.041
LV TDV (ml/m2)	64.35 (51-88.15)	54.4 (43.3-68.55)	70.5 (57.95-94.25)	<0.001
	41.94 ± 18.34	37.42 ± 15.69	44.21 ± 19.25	0.082
Indexed LV TDV (ml/m2)	15.93 ± 14.34	12.36 ± 11.64	17.88 ± 15.35	0.04
Indexed LV TSV (ml/m2)	15.95 ± 14.34	12.36 ± 11.64	17.88 ± 15.35	0.041
Mass	171.23 ± 65.28	153.36 ± 54.60	181.15 ± 68.93	0.048
Left Ventricular Function				
LVEF (%)	61.27 ± 13.49	63.83 ± 13.23	59.99 ± 13.54	0.187
Cardiac Output (lt/min)	5.15 (3.91-6.48)	4.62 (3.84-5.45)	5.78 (4.01-7.00)	0.059
Morphology of LV n (%)				
Normal	8 (8.3)	1 (2.9)	7 (11.1)	0.355
Concentric remodeling	54 (55.7)	18 (52.9)	36 (57.1)	
Concentric hypertrophy	31 (32)	14 (41.2)	17 (27)	
Eccentric hypertrophy	4 (4.1)	1 (2.9)	3 (4.8)	
TAPSE (mm) (n=99)	20.0 ± 5.0	18.7 ± 5.7	20.8 ± 4.5	0.055
Mid diameter (cm)	3.3 (2.7-16.3)	2.8 (2.5-4)	3.4 (2.9-22.4)	0.032
Longitudinal diameter (cm)	7.35 (6.68-53)	6.8 (6.1-7.8)	7.5 (6.9-57.4)	<0.0001
PVAT (mseg)	98.07 ± 24.22	90.5 ± 27.84	103.26 ± 20.19	0.037
RA pressure	8.7 ± 3.66	10 ± 4.20	8 ± 3.16	0.008
FAC RV	44.70 ± 8.68	44.59 ± 9.42	44.76 ± 8.34	0.938
AORTA				
Aortic sinus (mm/m2BSA)	3.02 (2.7-3.3)	2.85 (2.6-3.01)	3.1 (2.9-3.4)	<0.0001
VTI	20.53 ± 6.46	22.27 ± 7.42	19.62 ± 5.74	0.048
Cardiac output (lt/min)	5.1 (3.9 – 6.5)	4.62 (3.8 – 5.4)	5.7 (4.0 – 7.0)	0.059
Tricuspid valve				
TR Vmax (m/s)	2.64 ± 0.56	2.77 ± 0.66	2.56 ± 0.49	0.102
PASP (mmHg)	37.88 ± 15.86	42.27 ± 19.32	35.34 ± 12.99	0.045
Inferior Vena Cava				
IVC diameter	18.06 ± 4.46	18.85 ± 4.44	17.61 ± 4.45	0.197
Collapsability index (<50%)	54 (53.5)	22 (61.1)	32 (49.2)	0.252
Pulmonary Valve				
DTSV	11.75 ± 10.26	7.37 ± 9.36	14.16 ± 10.15	0.077
Mitral Valve				
Mitral E wave velocity (cm/s)	65.51 ± 21.01	68.285 ± 22.50	64.06 ± 20.20	0.34
Septal E' velocity	6.31 ± 2.41	5.86 ± 2.44	6.52 ± 2.39	0.20
Wave A velocity	70.8 (57.7-89.7)	87.8 (65-108)	68.45 (54.9-85.65)	<0.001
Lateral E' velocity	7.65 ± 3.36	6.84 ± 3.69	8.06 ± 3.13	0.094
E'A ratio	0.82 (0.66-1.08)	0.73 (0.56-0.93)	0.85 (0.73-1.14)	0.033
E/E' ratio	9.81 (6.79-12.67)	11.20 (8.23-14.63)	8.77 (6.44-12.17)	0.009

BSA, Body Surface Area; **DTSV**, Right ventricular outflow tract diameter; **FAC**, Fractional Area Change of RV; **HFmEF**, Heart Failure with mid-range Ejection Fraction; **HFpEF**, Heart Failure with preserved Ejection Fraction; **HFrEF**, Heart Failure with reduced Ejection Fraction; **IVC**, Inferior Vena Cava; **IVS**, interventricular septum; **LA**, Left atrial; **LV**, Left Ventricle; **LVOT**, Left Ventricular outflow tract; **LV TSV**, Left Ventricular Tele-Systolic Volume; **LV TDV**, Left Ventricular Tele-Diastolic Volume; **PASP**, Pulmonary arterial systolic pressure; **PVAT**, pulmonary velocity acceleration time; **RA**, Right atrial; **TAPSE**, Tricuspid annular plane systolic excursion; **TR -Vmax**, tricuspid regurgitant gradient velocity; **VTI**, Velocity time integral. Percentage could be not a 100 because of missing data and rounding.

Echocardiographic parameters are not a total of 105.

Table S4. Evidence of increased filling pressures and cardiovascular disease.

Variable		All (n=105)	Women (n=37)	Men (n=68)	p
Ventricular Diastolic function	E/e \geq 15	13 (13.54)	7 (21.88)	6 (9.38)	0.171
	E septal < 7cm/s	71 (73.20)	25 (78.12)	46 (70.77)	0.442
	E lateral < 10 cm/s	73 (76.04)	28 (87.50)	45 (70.31)	0.063
	Vel max rt > 2.8 m/s	22 (24.44)	10 (30.30)	12 (21.05)	0.325
Biomarkers	PASP > 35mm Hg	41 (45.56)	19 (57.58)	22 (38.60)	0.081
	BNP \geq 35 pg/mL	72 (72)	27 (72.9)	45 (71.4)	0.868
Ventricular Systolic function	LVEF < 50%	16 (16.67)	6 (18.75)	10 (15.62)	0.699
Morphology	LVWT \geq 12 mm	35 (35.71)	10 (28.57)	25 (39.68)	0.271
	RWT > 0.42	92 (93.88)	32 (91.43)	60 (95.24)	0.663
	LVMI > 116/95 g/ m ²	27 (27.55)	8 (22.86)	19 (30.16)	0.438
	LAVI \geq 29 mL/m ²	32 (31.07)	15 (40.54)	17 (25.76)	0.120

BNP, Brain Natriuretic Peptide; **RVFAC**, Right Ventricular Fractional Area Change; **LAVI**, Left Atrial Volume Index; **LVMI**, Left Ventricular Mass Index; **LVWT**, Left Ventricular Wall Thickness; **PASP**, Pulmonary arterial systolic pressure; **RWT**, Left Ventricular Relative Wall Thickness.