

Table 1 of ESM: Univariate analysis for Lopinavir/Ritonavir use (only significant results).

	n	Lopinavir/Ritonavir (n=390)	No Lopinavir/Ritonavir (n=31)	OR (CI 95%)	p
Nursing home contact, n (%)	422	36 (9,2)	7 (22,6)	0,35 (0,14-0,89)	0,018
DAP in the ER, mean (SD)		72,8 (12,6)	65,4 (12,4)		0,008
APACHE II score at ICU admission, mean (SD)	410	12,6 (7,5)	16,7 (6,6)		<0,001
Sat O2 at ICU admission, mean (SD)	416	88,6 (8,1)	89,3 (13,8)		<0,001
Respiratory rate at ICU admission, mean (SD)	415	30,9 (7,1)	26,9 (8,2)		0,006
Body mass index, mean (SD)	416	29,3 (5,4)	27,0 (4,6)		0,034
Platelets at ICU admission [ $\times 10^9/L$ ], mean (SD)	418	240,9 (107,4)	282,5 (142,3)		0,044
D-dimer at ICU admission [ng/mL], median (p25-p75)	376	1257 (758-2769)	2810 (818-7031)		0,036
Remdesivir, n (%)	421	7(1,8%)	1 (3,2%)		NS
Interferon $\beta$ 1b, n (%)	421	200 (51,3%)	2 (6,5%)	15,3 (3,59-64,8)	<0,001
Chloroquine, n (%)	410	325 (85,8%)	13 (41,9%)	8,33 (3,86-17,9)	<0,001
Tocilizumab, n (%)	410	159 (41,8%)	7 (23,3%)	2,36 (0,99-5,64)	0,054
14 days mortality, n (%)	422	73 (18,7%)	7 (22,6%)		0,598
28 days mortality, n (%)	422	110 (28,2%)	10 (32,3%)		0,630
6 weeks mortality, n (%)	422	136 (34,9%)	15 (48,4%)		0,131

APACHE: Age, Physiology, Chronic Health Evaluation; CI: confidence interval; DAP: Diastolic arterial pressure; ER: Emergency room; ICU: Intensive Care Unit; OR: Odds ratio; SD: Standard deviation

Table 2 ESM: Univariate analysis for Tocilizumab use (only significant results).

	n	Tocilizumab (n=166)	No Tocilizumab (n= 244)	OR (CI 95%)	p
Sex (male), n (%)	409	129 (78,2)	168 (68,9)	1,62 (1,03-2,56)	0,038
Height, mean (SD)	359	171,8 (7,9)	169,9 (7,1)		0,007
Renal disease, n (%)	410	10 (6,0)	34 (13,9)	0,40 (0,19-0,83)	0,011
Heart rate in the ER, mean (SD)	381	89,3 (17,1)	93,2 (18,6)		0,018
SOFA score at ICU admission, mean (SD)	397	5,8 (2,6)	5,3 (2,1)		0,023
Respiratory rate at ICU admission, mean (SD)	404	32,0 (6,9)	29,6 (7,7)		0,003
SOFA score 72 h post-ICU admission, mean (SD)	382	7,0 (2,5)	6,2 (3,3)		< 0,001
High flow oxygen or non-invasive ventilation before intubation, n (%)	395	73 (44,5)	67 (29,0)	1,96 (1,29-2,99)	< 0,001
Endotracheal intubation, n (%)	410	152 (91,6)	182 (74,6)	3,70 (1,99-6,87)	< 0,001
First PEEP after intubation, mean (SD)	326	13,1 (2,4)	12,5 (2,7)		0,002
Prone position, n (%)	395	128/161 (79,5)	123/234 (52,6)	3,50 (2,21-5,50)	<0,001
Vasopressors, n (%)	407	147 (89,1)	179 (74,0)	2,87 (1,63-5,07)	<0,001
Lactate dehydrogenase at ICU admission [U/L], mean (SD)	388	560,2 (236,6)	509,3 (469,4)		<0,001
Neutrophils 72h post-ICU admission [ $\times 10^9/L$ ], mean (SD)	390	7,9 (4,6)	9,0 (6,3)		0,037
Lactate dehydrogenase 72h post-ICU admission [U/L], mean (SD)	353	471,8 (178,7)	435,6 (363,0)		<0,001
C-reactive protein 72h post-ICU admission [mg/L], mean (SD)	375	97,6 (97,0)	155,1 (128,9)		< 0,001
Lactate 72h post-ICU admission [mmol/L], median (p25-p75)	322	1,7 (1,3-2,3)	1,4 (1-2)		0,003
Fibrinogen 72h post-ICU admission [mg/dL], median (p25-p75)	260	549 (382-716)	666 (434 - 847)		0,002
D-dimer 72h post-ICU admission [ng/mL], median (p25-p75)	360	3851 (1913-12396)	1856 (866-3627)		< 0,001
Nosocomial infection, n (%)	399	71 (44,1)	76 (31,9)	1,68 (1,11-2,54)	0,013
Ventilator-associated pneumonia, n (%)	402	51 (31,1)	50 (21,1)	1,70 (1,08-2,67)	0,022
Urinary tract infection, n (%)	404	31 (18,8)	18 (7,5)	2,84 (1,53-5,28)	0,001
Interferon $\beta$ 1b, n (%)	410	89 (53,6)	105 (43,0)	1,53 (1,03-2,28)	0,035
Chloroquine, n (%)	409	162 (98,2)	176 (72,1)	20,86 (6,44-67,6)	< 0,001
Steroids therapy, n (%)	405	126 (76,8)	128 (53,1)	2,93 (1,88-4,56)	< 0,001

ICU stay, median (p25-p75)	421	19,5 (13-36)	18,5 (8-20)		< 0,001
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CI: confidence interval; ER: Emergency room; ICU: Intensive Care Unit; OR: Odds ratio; PEEP: Positive end-expiratory pressure; SAP: Systolic arterial pressure; SD: Standard deviation; SOFA: Sequential Organ Failure assessment

Table 3 ESM: Univariate analysis for Chloroquine use (only significant results).

	n	Chloroquine (n=336)	No Chloroquine (n= 70)	OR (CI 95%)	p
Renal disease, n (%)	410	28 (8,3)	16 (22,2)	0,32 (0,16-0,62)	0,001
Respiratory rate in the ER	371	23,7 (7,0)	26,4 (7,7)		0,008
SAP at ICU admission, mean (SD)	400	121 (23,4)	126,4 (24,5)		0,004
High flow oxygen, n (%)	408	168 (50,0)	23 (31,9)	2,13 (1,24-3,65)	0,005
High flow oxygen or non-invasive ventilation before intubation, n (%)	395	123 (37,6)	16 (23,5)	1,96 (1,07-3,58)	0,027
Prone position, n (%)	395	215/324 (66,4)	35/71 (63,3)	2,03 (1,21-3,41)	0,007
Platelets at ICU admission [ $\times 10^9/L$ ], mean (SD)	406	249,1 (109,7)	221,6 (101,6)		0,022
Lactate dehydrogenase at ICU admission [U/L], mean (SD)	379	541,6 (402,6)	472,1 (305,2)		0,013
Fibrinogen at ICU admission [mg/dL], mean (SD)	296	732,1 (750,6)	567,7 (265,2)		0,007
D-dimer at ICU admission [ng/mL], median (p25-p75)	368	1209 (744-2808)	1930 (838-3500)		0,028
% Neutrophils 72h post-ICU admission [ $\times 10^9/L$ ], mean (SD)	379	83,6 (9,5)	80,3 (11,7)		0,016
Platelets 72h post-ICU admission [ $\times 10^9/L$ ], mean (SD)	377	273,8 (109,9)	233,8 (128,2)		0,004
Lactate dehydrogenase 72h post-ICU admission [U/L], mean (SD)	347	454,5 (249,5)	435,7 (494,8)		0,013
C-reactive protein 72h post-ICU admission [mg/L], mean (SD)	364	122,2 (117,5)	176,5 (121,9)		0,001
Lactate 72h post-ICU admission [mmol/L], mean (SD)	311	1,6 (1,2-2,1)	1,2 (1,0-1,8)		0,003
Nosocomial infection, n (%)	399	129 (39,2)	18 (25,7)	1,86 (1,04-3,33)	0,034
Interferon $\beta$ 1b, n (%)	421	167 (49,4)	25 (36,1)	1,73 (1,02-2,92)	0,040
Tocilizumab, n (%)	409	162 (47,9)	3 (4,2)	20,9 (6,44-67,6)	< 0,001
Lopinavir/Ritonavir, n (%)	410	325 (96,2)	54 (75,0)	8,33 (3,86-17,99)	< 0,001
Steroids therapy, n (%)		227 (67,6)	28 (40,0)	3,12 (1,84-5,31)	< 0,001
ICU stay, median (p25-p75)	409	23 (14-32)	21 (8-30)		0,011

CI: confidence interval; ER: Emergency room; ICU: Intensive Care Unit; OR: Odds ratio; SAP: Systolic arterial pressure; SD: Standard deviation

Table 4 ESM: Univariate analysis for Interferon  $\beta$  1b use (only significant results).

	n	Interferon $\beta$ 1b (n=202)	No Interferon $\beta$ 1b (n= 219)	OR (CI 95%)	p
Arterial hypertension, n (%)	421	109 (54,0)	93 (42,5)	1,59 (1,08-2,33)	0,018
SOFA score 72 h post-ICU admission, mean (SD)	421	6,8 (2,8)	6,2 (3,1)		0,047
High flow oxygen or non-invasive ventilation before intubation, n (%)	406	78 (40,2)	62 (29,2)	1,63 (1,08-2,46)	0,020
Endotracheal intubation, n (%)	421	174 (86,1)	167 (76,3)	1,94 (1,17-3,21)	0,010
Invasive ventilation mode (pressure control), n (%)	340	66/172 (38,4)	39/167 (23,4)	2,04 (1,27-3,28)	0,003
Prone position, n (%)	405	143/193 (73,3)	114/212 (42,6)	2,46 (1,62-3,74)	<0,001
Prone position days, median (p25-p75)	247	3 (2-4,5)	2 (1-3)		0,003
Vasopressors, n (%)	418	172 (85,1)	161 (74,5)	1,96 (1,20-3,21)	0,007
Platelets at ICU admission [ $\times 10^9/L$ ], mean (SD)	418	230,2 (98,1)	256,8 (120,1)		0,045
Lactate at ICU admission [mmol/L], median (p25-p75)	370	1,4 (1,02-1,80)	1,75 (0,98-2,78)		0,039
Fibrinogen at ICU admission [mg/dL], median (p25-p75)	295	733 (558-886)	665 (453-830)		<0,001
D-dimer at ICU admission [ng/mL], median (p25-p75)	376	1256 (789-2182)	1465 (749-5557)		0,001
% Lymphocytes 72h post-ICU admission, mean (SD)	384	9,9 (6,6)	8,8 (6,3)		0,022
Creatine kinase 72h post-ICU admission [U/L], median (p25-p75)	299	186 (71-383)	121 (50-310)		0,004
Aspartate aminotransferase 72h post-ICU admission [U/L], median (p25-p75)	359	51 (31-75)	34 (23-61)		0,001
C-reactive protein 72h post-ICU admission [mg/L], mean (SD)	375	148,4 (128,8)	112,4 (107,6)		0,003
Fibrinogen 72h post-ICU admission [mg/dL], mean (SD)	260	639,3 (267,1)	562,2 (255,1)		0,002
D-dimer 72h post-ICU admission [ng/mL], median (p25-p75)	360	2334 (1262-8910)	3770 (1605-17497)		0,021
Urinary tract infection, n (%)	414	33 (16,4)	17 (8,0)	2,27 (1,22-4,21)	0,008
Lopinavir/Ritonavir, n (%)	421	200 (99,0)	190 (86,8)	15,26 (3,59-64,8)	< 0,001
Tocilizumab, n (%)	410	89 (45,9)	77 (35,6)	1,53 (1,03-2,28)	0,035
Empiric antimicrobial therapy, n (%)	419	193 (96,0)	194 (89,0)	2,99 (1,31-6,81)	0,007
Steroids therapy, n (%)	416	108 (54,3)	152 (70,0)	0,51 (0,34-0,76)	0,001
ICU stay, median (p25-p75)	420	24 (16-31)	20 (11-32)		0,003

CI: confidence interval; ICU: Intensive Care Unit; OR: Odds ratio; SD: Standard deviation; SOFA: Sequential Organ Failure assessment

