

Supplementary Material

Title: Identification of Distinct Clinical Phenotypes of Critically Ill COVID-19 Patients: Results from a Cohort Observational Study

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Table S1– Principal Components analysis (PCA) of the cluster dataset

Explained total variance						
Component	Initial eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	% cumulative	Total	% of variance	% cumulative
C-reactive Protein serum level	1,602	53,416	53,416	1,602	53,416	53,416
Procalcitonin serum level	1,010	33,677	87,092	1,010	33,677	87,092
Il-6 serum level	1,005	9,908	97,000	1,005	9,908	97,000
Leukocyte count	,561	1,810	98,81			
D-dimer serum level	,471	,908	99,72			
Lymphocyte count	,387	,028	100,000			
Note: Kaiser-Meyer-Olkin measure: 0.895						

Table S2– Demographic, clinical and outcome variables of patients between Phenotypes B and C*

	PHENOTYPE B (n=244; 24%)	PHENOTYPE C (n=163; 16%)	p [‡]
Age, years, (median (IQR))	62 (47-79)	63 (47-80)	0.9

Gender, males, (n, %)	131 (53.7%)	78 (47.9%)	0.08
Previous Medical Comorbidities			
Chronic Obstructive Pulmonary Disease (n, %)	18 (7.4%)	14 (8.9%)	0.09
Asthma (n, %)	8 (3.3%)	5 (3.1%)	0.45
Chronic Kidney Disease (n, %)	29 (11.9%)	23 (14.1%)	0.127
Obesity (n, %)	36 (14.8%)	27 (16.7%)	0.298
Diabetes Mellitus (n, %)	82 (33.6%)	47 (28.8%)	0.12
Ischemic Cardiopathy (n, %)	64 (26.2%)	39 (23.9%)	0.659
SOFA at admission (median (IQR))	3 (2;5)	1 (0; 3)	0.04
SAPS III at admission (mean \pm SD)	50 \pm 7	47 \pm 12	0.413
Mechanical Ventilation (n, %)	11 (4.6%)	11 (6.9%)	0.06
Vasopressor Support (n, %)	38 (15.6%)	38 (14.4%)	0.318
Renal replacement therapy (n, %)	19 (7.8%)	19 (11.6%)	0.59
Laboratory results			
C reactive Protein at admission, mg/dL (median (IQR))	20.0 (10.3; 40.6)	17.20 (4.0; 23.7)	0.001
Max registered C-Reactive protein, mg/dL (mean \pm SD)	25.3 \pm 10.4	18.6 \pm 12.5	<0.001
Procalcitonin at admission, ng/mL (median (IQR))	0.17 (0.05; 0.23)	0.22 (0.12; 0.23)	0.02
Max registered Procalcitonin, ng/mL (median (IQR))	0.34 (0.06; 0.74)	1.30 (0.70; 1.40)	0.035
D-dimer level at admission, ng/mL (median (IQR))	610 (97; 753)	202 (119; 262)	0.001
Max D-dimer registered, ng/mL (median (IQR))	655 (48; 1305)	303 (78; 307)	0.001
Minimum Leucocyte count registered, $\times 10^9$ (mean \pm SD)	5.0 \pm 2.03	5.3 \pm 2.2	<0.001
Minimum Lymphocyte count registered, $\times 10^9$ (median (IQR))	0.36 (0.12; 0.39)	0.57 (0.68; 1.09)	0.745
IL-6 serum levels, mg/mL (median (IQR))	35.4 (6.6; 42.7)	41.0 (16.0; 49.0)	0.001
Remdesivir, (n, %)	243 (99.6%)	147 (90.2%)	0.03
Corticosteroid therapy (n, %)	137 (97.9%)	147 (90.0%)	0.001
Ventilator-free days, days, (median (IQR))	12 (4; 20)	10 (4;17)	0.568
ICU length of stay, days, (median (IQR))	6 (5; 11)	10 (3; 10)	0.01
Hospital Length of stay, days, (mean \pm sd)	9 (1; 14)	13 (2; 14)	0.001
Mortality, (n, %)	17 (7.0%)	2 (1.2%)	<0.001

* IQR denotes Interquartile range and SD denotes standard deviation

¥ p-values were determined using Chi-square test, ANOVA test and Kruskal-Wallis H test

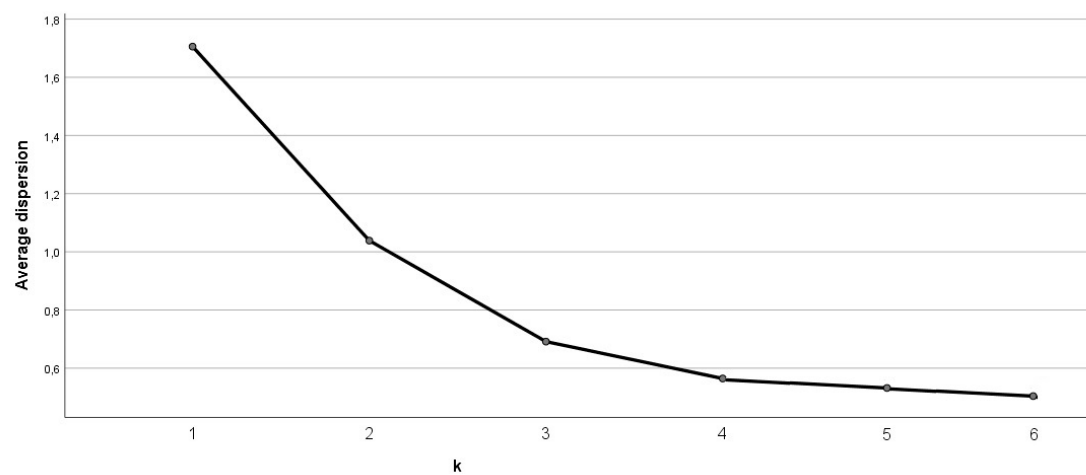


Figure S1– Principal Component analysis using elbow method of the cluster dataset