

Oxidative stress and inflammatory biomarkers for the prediction of severity and ICU admission in unselected patients hospitalized with COVID-19”

Supplementary tables

Table S1. Correlations coefficients between studied and routine biomarkers

Type of biomarker	Oxidative Stress Biomarkers			Inflammatory biomarkers					Cell activation biomarkers		
Biomarker	Thiols (log)	AOPP (log)	IMA (log)	IL-6 (log)	PSEP (log)	CRP (log)	Albumin	Fibrinogen	Calprotectin (log)	Leukocytes (log)	Neutrophils (log)
Thiols (log)		-0.313**	-0.506**	-0.460**	-0.438**	-0.445**	0.615**	-0.292**	-0.508**	-0.411**	-0.495**
AOPP (log)			0.158*	0.282**	0.172*	0.118	-0.309*	-0.035	0.241*	0.153*	0.249*
IMA (log)				0.411**	0.328**	0.580**	-0.357**	0.386**	0.367**	0.248*	0.326**
IL-6 (log)					0.546**	0.634**	-0.394**	0.447**	0.463**	0.205*	0.461**
PSEP (log)						0.475**	-0.414**	0.281*	0.379**	0.302**	0.429**
CRP (log)							-0.458**	0.571**	0.544**	0.250*	0.378**
Albumin								-0.199	-0.502**	-0.397**	-0.465**
Fibrinogen									0.472**	0.306**	0.357**
Calprotectin (log)										0.362**	0.565**
Leukocytes (log)											0.869**
Neutrophils (log)											

For this analysis, a log-transformation was performed and indicated by (log) when the distribution was not normal.

* p<0.05; ** p<0.001; Correlation coefficient absolute values below 0.3 are considered to be weak (yellow), from 0.3 to 0.7 are moderate (orange) and above >0.7 are strong (red).

Table S2. Oxidative stress (OS) and inflammation biomarkers concentrations according to increased O₂ needs

Type of biomarker	Biomarker	No increased O ₂ needs			Increased O ₂ needs			<i>p</i>
		N	Median	IQR	N	Median	IQR	
Oxidative Stress Biomarkers	Thiols (μM)	71	197	149 to 275	89	130	91 to 164	<0.001
	AOPP (μM)	71	59	7 to 174	88	111	47 to 220	0.009
	IMA (ABSU)	70	0.17	0.11 to 0.24	88	0.20	0.17 to 0.27	<0.001
Inflammatory biomarkers	IL-6 (ng/L)	71	12.7	1.5 to 32.9	89	80.0	27.8 to 158.8	<0.001
	PSEP (ng/L)	71	416	250 to 713	88	879	532 to 1668	<0.001
cell activation	Calprotectin (mg/L)	68	11.9	5.0 to 19.3	84	30.4	18.0 to 42.6	<0.001

IQR: interquartile range

Table S3. Univariate and multivariate analysis for the prediction of ICU admission and mortality

Baseline characteristics	Prediction of ICU admission				Prediction of mortality			
	Univariate analysis		Multivariate analysis		Univariate analysis		Multivariate analysis	
	OR [95%CI]	<i>p</i>	OR [95%CI]	<i>p</i>	OR [95%CI]	<i>p</i>	OR [95%CI]	<i>p</i>
Men –n (%)	2.20 [1.13-4.27]	0.019	/	/	4.28 [1.19 – 15.44]	0.018	/	/
Age >60 years	1.04 [0.55-1.96]	0.898			8.84 [1.96 – 39.9]	0.001	16.4 [1.90 – 141]	0.011
Smoking –n (%)	0.91 [0.42-1.98]	0.824			2.81 [0.99 – 7.94]	0.047	/	/
Cardiovascular Disease	1.86 [0.96-3.59]	0.065	/	/	2.10 [0.73 – 6.00]	0.162	/	/
Overweight/obesity	3.25 [1.40-7.52]	0.005	2.83 [1.19-6.74]	0.019	1.55 [0.57 – 4.23]	0.391		
Hypertension	2.00 [1.03-3.87]	0.039	/	/	2.20 [0.82 – 5.93]	0.114	/	/
Diabetes	1.94 [0.92-4.09]	0.081	/	/	1.66 [0.58 – 4.78]	0.347		
Chronic kidney Disease	1.26 [0.44-3.58]	0.663			1.10 [0.23 – 5.29]	0.907		
Chronic Resp Failure	0.93 [0.21-4.04]	0.924			2.34 [0.45 – 12.25]	0.303		
Systemic autoimmune Disease	0.76 [0.18-3.16]	0.704			2.32 [0.44 – 12.1]	0.308		
Temperature >38°C	1.65 [0.78-3.50]	0.190	/	/	1.35 [0.41 – 4.39]	0.615	/	/
Caught	0.77 [0.40-1.48]	0.440			0.52 [0.19 – 1.43]	0.195	/	/
Dyspnea	6.69 [3.04-14.7]	<0.001	3.67 [1.45-9.28]	0.006	2.30 [0.71 – 7.41]	0.155	/	/

Myalgias	0.49 [0.24-1.01]	0.052	/	/	0.27 [0.06 – 1.23]	0.076	/	/
Fatigue	0.68 [0.35-1.31]	0.246			0.79 [0.18 – 2.26]	0.668		
Diarrhea	0.56 [0.26-1.21]	0.141	/	/	0.36 [0.08 – 1.65]	0.171	/	/
Oxygenation	39.5 [5.2-297.2]	<0.001	/	/	6.64 [0.86 – 51.46]	0.012	/	/
Thiols values (log-transformed)	0.01 [0.00-0.05]	<0.001	0.05 [0.01-0.58]	0.017	0.03 [0.00 – 0.25]	0.001	/	/
IL-6 values (log-transformed)	4.0 [2.28-6,98]	<0.001	2.56 [1.20-5.47]	0.015	2.50 [1.31 – 4.78]	0.006	/	/
Calprotectin values (log-transformed)	10.48 [3.9-28.4]	<0.001	/	/	19.1 [3.23 – 112.9]	0.001	33.7 [3.37 - 337]	0.003

OR, odds ratio. Grey zones indicate variables not included in the multivariate analysis.

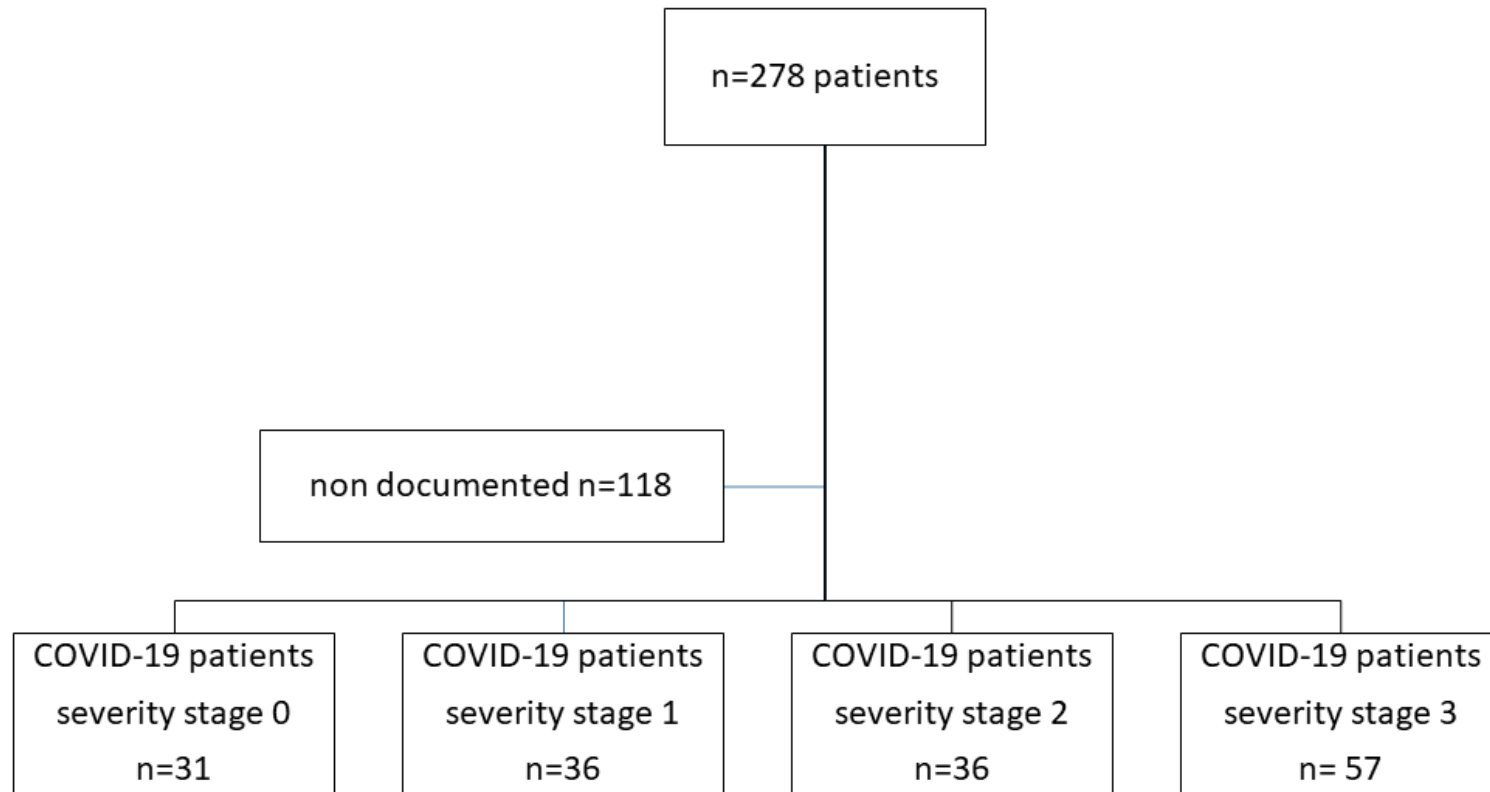


Figure S1

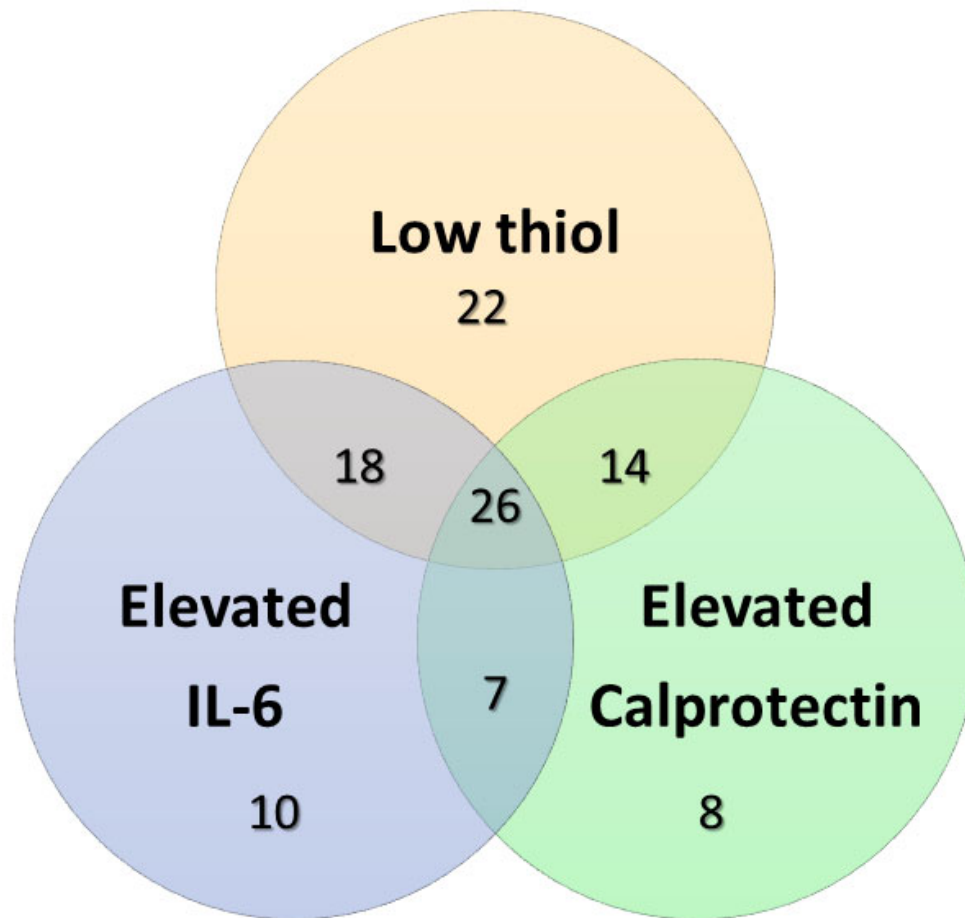


Figure S2