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Table 1. Clinical features of patients infected with SARS-CoV-2 in the cohort 1

Features	Description of features	Types of feature attributes	Feature Groups	Impute method
LOS	Length of hospital stay	Numerical variables	No group*	Leave untreated
Black	Race information	Binary variables	No group	Leave untreated
White	Race information	Binary variables	No group	Leave untreated
Asian	Race information	Binary variables	No group	Leave untreated
Latino	Race information	Binary variables	No group	Leave untreated
MI	Myocardial infraction	Binary variables	No group	Leave untreated
PVD	Peripheral vascular disease	Binary variables	No group	Leave untreated
CHF	Congestive heart failure	Binary variables	No group	Leave untreated
CVD	cardiovascular disease	Binary variables	No group	Leave untreated
DEMENT	dementia	Binary variables	No group	Leave untreated
COPD	Chronic obstructive pulmonary disease	Binary variables	No group	Leave untreated
DM Complicated	diabetes mellitus complicated	Binary variables	No group	Leave untreated
DM Simple	diabetes mellitus simple	Binary variables	No group	Leave untreated
Renal Disease	Renal Disease	Binary variables	No group	Leave untreated
Stroke	Stroke	Binary variables	No group	Leave untreated
Seizure	Seizure	Binary variables	No group	Leave untreated
Age	Age	Numerical variables	Independent feature group 1	Leave untreated
OsSats	Oxygen saturation	Numerical variables	Independent feature group 2	Imputed by the mean
Temp	Temperature	Numerical variables	Independent feature group 3	Imputed by the mean
MAP	Mean arterial pressure	Numerical variables	Independent feature group 4	Imputed by the mean
Ddimer	D-dimer	Numerical variables	Cardiovascular group	KNN imputing in the same group
Plts	Platelets	Numerical variables	Cardiovascular group	KNN imputing in the same group
INR	International normalized ratio	Numerical variables	Cardiovascular group	KNN imputing in the same group
Troponin	Troponin	Numerical variables	Cardiovascular group	KNN imputing in the same group
BUN	Blood urea nitrogen	Numerical variables	Hepatorenal group	KNN imputing in the same group
Creatinine	Creatinine	Numerical variables	Hepatorenal group	KNN imputing in the same group
Sodium	Sodium	Numerical variables	Hepatorenal	KNN imputing in

			group	the same group
Glucose	Glucose	Numerical variables	Hepatorenal group	KNN imputing in the same group
Ferritin	Ferritin	Numerical variables	Hepatorenal group	KNN imputing in the same group
AST	Aspartate aminotransferase	Numerical variables	Hepatorenal group & Cardiovascular group	KNN imputing in the same group
ALT	Alanine aminotransferase	Numerical variables	Hepatorenal group & Cardiovascular group	KNN imputing in the same group
WBC	White blood cells	Numerical variables	Inflammatory group	KNN imputing in the same group
Lympho	Lymphocytes	Numerical variables	Inflammatory group	KNN imputing in the same group
IL6	Interleukin-6	Numerical variables	Inflammatory group	KNN imputing in the same group
CrctProtein	C-reactive protein	Numerical variables	Inflammatory group	KNN imputing in the same group
Procalcitonin	Procalcitonin	Numerical variables	Inflammatory group	KNN imputing in the same group
All CNS	No introduction found	Binary variables	No group	Leave untreated
Pure CNS	No introduction found	Binary variables	No group	Leave untreated
OldSyncope	No introduction found	Binary variables	No group	Leave untreated
OldOtherNeuro	No introduction found	Binary variables	No group	Leave untreated
OtherBrnLsn	No introduction found	Binary variables	No group	Leave untreated
Derivation cohort	Grouping in the original literature [14]	Binary variables	No group	Leave untreated
Death	Whether the patient died or not	Binary variables	No group	Leave untreated
Severity	COVID-19 Severity (Score given in the original literature) [14]	Binary variables	No group	Leave untreated

493 *: No group means that the feature is not used in this study.

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495 Table 2. The maximum in the original data and the selected cutoff95

Feature	Maximum	Cutoff95
Ddimer	20.00001	20.00001
Plts	1226	433
INR	17.0001	1.7