

**Supplementary table 1:** Complete list of the 95 clinical features.

Vaccination status	Breathing rate d-2	Compliance d-2	pH d-3
Sex	Breathing rate d-3	Compliance d-3	pH d-7
Covid status	Breathing rate d-7	Compliance d-7	Ferritin-72h
Age	PEEP d-0	Prone position	D-Dimer-72h
Length of stay (LoS)	PEEP d-2	Prone position (hours)	CRP-72h
Discharge condition	PEEP d-3	PaFi2 ratio d-0	Arterial hypertension
Shock	PEEP d-7	PaFi ratio d-2	Coronary disease
APACHE II Score	FiO2 d 0	PaFi_HFNC d-2	COPD
SOFA Score	FiO2 d-2	PaFi ratio d-3	CKI
Extracorporeal circulation	FiO2 d-3	PaFi_HFNC d-3	AKI
Extracorporeal circulation (days)	FiO2 d-7	PaFi ratio d-7	Dialysis
Days of mechanical respiratory assistance	Peak pressure d-0	PaFi_HFNC d-7	Diabetes mellitus
Mechanical ventilation	Peak pressure d-2	Fluid balance_d-2_HFNC	Obesity
Thromboprophylaxis	Peak pressure d-3	Fluid balance_d-3_HFNC	Lopinavir/Ritonavir
Ventilator-associated pneumonia	Peak pressure d-7	Fluid balance_d-7_HFNC	Azithromycin
Unplanned extubation	Plateau pressure d-0	pCO2 d-0	Chloroquine
Reintubation	Plateau pressure d-2	pO2 d-0	Corticosteroids
CVC-associated pneumothorax	Plateau pressure d-3	pCO2 d-2	Tocilizumab
Decannulation	Plateau pressure d-7	pO2 d-2	Number of Tocilizumab doses
Ventilation mode d-0	Driving pressure d-0	pCO2 d-3	Hyperglycemia
Ventilation mode d-2	Driving pressure d-2	pO2 d-3	Upper gastrointestinal bleeding
Ventilation mode d-3	Driving pressure d-3	pCO2 d-7	Superinfection
Ventilation mode d-7	Driving pressure d-7	pO2 d-7	Complications
Breathing rate d-0	Compliance d-0	pH d-2	

**Abbreviations:** CRO: C-reactive protein; CVC: central venous catheter; d: day; HFNC: high flux nasal canula; PEEP: positive end-expiratory pressure.