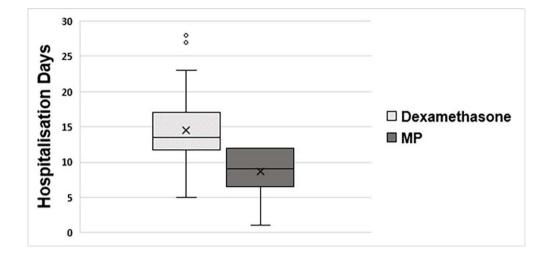*SpO2/FiO2 < 300 and a CT scan with bilateral and over 50% of the lung parenchyma distribution of opacities, either ground glass or consolidated

Supplementary Figure 1. Flow chart showing the process of patient registration.

Supplementary Figure 2. Hospitalisation days required for patients who were not intubated, on the basis of the treatment protocol they received.

Supplementary Table 1. Immunophenotype characteristics of patients with severe COVID during the two different pandemic periods in Greece.

Characteristics	Pulses		p-value
	Treatment with SOC	Treatment with MP	
	Median (IQR)		
CD4/CD8	2.04 (1.45)	2.15 (1.2)	0.75
CD4 %	39.4 (15.7)	42 (25)	0.41
CD4 cells	297 (214)	145 (140)	0.05
CD8 %	21.7 (14)	16 (9)	0.31
CD8 cells	142 (64)	58.5 (89)	<0.01
NK %	23 (15)	13.4 (15)	0.15
NK cells	141 (221)	79 (103)	0.01
CD 19 %	11 (9)	4.34 (6.7)	<0.01
CD 19 cells	70 (94)	20 (33)	<0.01
IgG	1135 (338)	1095 (372)	0.81
IgM	100 (61)	69 (56)	0.38
IgA	295 (95)	173 (226)	0.14