

## Supplemental Material

**Table S1.** Results of linear regression analyses for regional OEF and rCBF, with sex as an additional covariate.

Model	Dependent variable	Independent variables	Coefficient $\pm$ Standard Error	P-value
OEF1	OEF in frontal SSS	Group	$5.17 \pm 2.54 \%$	0.054
		Age	$0.11 \pm 0.051 \%/year$	0.04
		Sex	$-0.59 \pm 2.31 \%$	0.80
OEF2	OEF in posterior SSS	Group	$2.92 \pm 2.67 \%$	0.29
		Age	$0.075 \pm 0.053 \%/year$	0.17
		Sex	$-2.10 \pm 2.43 \%$	0.40
OEF3	OEF in ICV	Group	$5.20 \pm 3.87 \%$	0.20
		Age	$0.074 \pm 0.078 \%/year$	0.35
		Sex	$4.74 \pm 3.53 \%$	0.19
Model	Dependent variable	Independent variables	Coefficient $\pm$ Standard Error	P-value
rCBF1	rCBF in frontal gray matter	Group	$-0.085 \pm 0.025$	0.003
		Age	$-0.0018 \pm 0.00050 /year$	0.002
		Sex	$-0.026 \pm 0.022$	0.28
rCBF2	rCBF in gray matter of all brain lobes	Group	$-0.018 \pm 0.015$	0.25
		Age	$-0.00056 \pm 0.00030 /year$	0.08
		Sex	$-0.00079 \pm 0.014$	0.96
rCBF3	rCBF in BGT	Group	$0.024 \pm 0.031$	0.45
		Age	$0.0030 \pm 0.00062 /year$	0.0001
		Sex	$-0.043 \pm 0.028$	0.14

Group = 1 for COVID-19 ICU survivors and Group = 0 for healthy controls.

**Abbreviations:** OEF: oxygen extraction fraction; rCBF: relative cerebral blood flow, normalized by global CBF; SSS: superior sagittal sinus; ICV: internal cerebral veins; COVID-19: coronavirus disease 2019; ICU: intensive care unit.