

Supplemental Digital Content 4: Blood gas analysis after 6 hours, 12 hours, 18 hours and 24 hours of mechanical ventilation in both interventional groups. D-CMV: Interventional group treated with dexmedetomidine infusion. P-CMV: Interventional group treated with pentobarbital infusion. paO_2 : Arterial oxygen partial pressure displayed in millimeter of mercury. $paCO_2$: arterial carbon dioxide partial pressure displayed in millimeter of mercury. Hb: hemoglobin concentration displayed in grams per deciliter. HCO_3^- : Bicarbonate concentration displayed in millimole per liter. Base excess displayed in millimole per liter. pH non-dimensional. All values are displayed as means \pm SD.

	D-CMV	P-CMV
6h	paO_2 : 150 \pm 30 $paCO_2$: 26 \pm 5 Hb: 13 \pm 1 HCO_3^- : 24 \pm 1 Base excess: 2.8 \pm 1.8 pH: 7.54 \pm 0.06	paO_2 : 89 \pm 15 $paCO_2$: 36 \pm 7 Hb: 14 \pm 1 HCO_3^- : 28 \pm 1 Base excess: 4.3 \pm 1.3 pH: 7.48 \pm 0.04
12h	paO_2 : 119 \pm 26 $paCO_2$: 37 \pm 4 Hb: 15 \pm 2 HCO_3^- : 27 \pm 4 Base excess: 1.8 \pm 1.9 pH: 7.42 \pm 0.05	paO_2 : 110 \pm 25 $paCO_2$: 34 \pm 8 Hb: 12 \pm 3 HCO_3^- : 26 \pm 4 Base excess: 2.0 \pm 3.5 pH: 7.45 \pm 0.03
18h	paO_2 : 106 \pm 11 $paCO_2$: 26 \pm 5 Hb: 13 \pm 2 HCO_3^- : 21 \pm 2 Base excess: -0.8 \pm 2.0 pH: 7.48 \pm 0.07	paO_2 : 117 \pm 39 $paCO_2$: 34 \pm 4 Hb: 13 \pm 1 HCO_3^- : 29 \pm 3 Base excess: 5.3 \pm 1.7 pH: 7.50 \pm 0.02
24h	paO_2 : 138 \pm 24 $paCO_2$: 34 \pm 5 Hb: 13 \pm 1 HCO_3^- : 22 \pm 5 Base excess: 1.0 \pm 3.5 pH: 7.42 \pm 0.09	paO_2 : 99 \pm 28 $paCO_2$: 34 \pm 7 Hb: 12 \pm 2 HCO_3^- : 30 \pm 4 Base excess: 2.2 \pm 4.4 pH: 7.52 \pm 0.02