**Supplemental Digital Content 11**

**Table 6. Arterial blood gas analysis**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Power** | **VT** | **BASELINE** | **INITIAL** | **FINAL** | **Time Effect** | **Group Effect** | **Time *vs.* Group Effect** |
| **PaO2/FiO2 (mmHg)** |  |  |  |  |  | p=0.84 | p=0.16 | p=0.12 |
|  | High | Low | 277 ± 125 | 337 ± 80 | 358 ± 100 |  |  |  |
|  | High | 385 ± 104 | 395 ± 115 | 394 ± 62 |  |  |  |
|  | High with adjusted CO2 | Low | 373 ± 33 | 284 ± 79 | 345 ± 118 |  |  |  |
|  | High | 357 ± 107 | 407 ± 63 | 343 ± 88 |  |  |  |
| **pHa** |  |  |  |  |  | p=0.279 | p<0.001 | p=0.0006 |
|  | High | Low | 7.40 ± 0.08 | 7.55 ± 0.10 | 7.60 ± 0.11 |  |  |  |
|  | High | 7.44 ± 0.06 | 7.53 ± 0.06 | 7.54 ± 0.05 |  |  |  |
|  | High with adjusted CO2 | Low | 7.36 ± 0.07 | 7.24 ± 0.12† | 7.33 ± 0.11† |  |  |  |
|  | High | 7.39 ± 0.03 | 7.36 ± 0.11‡ | 7.36 ± 0.03‡ |  |  |  |
| **PaCO2 (mmHg)** |  |  |  |  |  | p=0.0150 | p<0.001 | p=0.0006 |
|  | High | Low | 30 ± 6 | 19 ± 6.4 | 17 ± 6 |  |  |  |
|  | High | 34 ± 7 | 18 ± 6.0 | 17 ± 5 |  |  |  |
|  | High with adjusted CO2 | Low | 37 ± 6 | 34 ± 6 | 42 ± 6† |  |  |  |
|  | High | 39 ± 8 | 36 ± 13‡ | 40 ± 5‡ |  |  |  |
| **Bicarbonate (mmol/L)** |  |  |  |  |  | p=0.0004 | p=0.0059 | p=0.0026 |
|  | High | Low | 19.5 ± 4.8 | 17.8 ± 2.0 | 17.8 ± 2.1 |  |  |  |
|  | High | 22.8 ± 3.2 | 15.7 ± 4.7 | 14.7 ± 2.8 |  |  |  |
|  | High with adjusted CO2 | Low | 20.3 ± 3.4 | 18.7 ± 3.5 | 19.9 ± 3.2 |  |  |  |
|  | High | 22.9 ± 4.4 | 22.9 ± 5.3‡ | 21.9 ± 2.8‡ |  |  |  |

Arterial blood gas analysis at BASELINE, INITIAL, and FINAL in the following groups: 1) High Power/Low tidal volume (VT) (6 mL/kg) and respiratory rate (RR) set to obtain a power three times that of the low-power groups; and 2) High Power/High VT(11 mL/kg), with RR set to obtain a power three times that of the low-power groups. The same high-power protocol was performed with increased equipment dead space to maintain arterial CO2 at physiological levels. Values are mean ± standard deviation (SD) of 8 animals/group. Comparisons were done using a mixed linear model followed by Bonferroni’s multiple comparisons (p<0.05). † *vs.* High Power/Low VT; ‡ *vs.* High Power/High VT.