**Supplemental Digital Content 4: Doses of anesthetic agent required to reach each of the 5 endpoints for each experimental group.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Experimental group** | **Righting Score ≥ 11 Score ≥ 14 Antinociception Score = 16 \*** | | | | |
|  |  | **Etomidate dose (mg/kg) ± SD** | | |  |
| **“Control-group” (n=18)** | 1.8 ± 0.4 | 2.0 ± 0.4 | 3.2 ± 0.5 | 3.8 ± 0.5 | 4.6 ± 0.5 |
| **Catheter only (n=13)** | 1. 9 ± 0.5 | 2.1 ± 0.4 | 3.3 ± 0.5 | 3.7 ± 0.5 | 4.6 ± 0.5 |
| **Vehicle (n=6)** | 1.6 ± 0.2 | 1.8 ± 0.3 | 2.9 ± 0.4 | 4.0 ± 0.5 | 4.8 ± 0.5 |
| **“Off-target group” (n=5)** | 1.7 ± 0.6 | 2.1 ± 0.4 | 3.1 ± 1.8 | 3.7 ± 1.7 | 5.3 ± 2.6 |
| **Lesion group (n=7)** | 2.2 ± 0.5 | 2.6 ± 0.6 | 4.4 ± 1.4 | 6.1 ± 2.7 | 6.8 ± 2.3 |
|  | **Propofol dose (mg/kg) ± SD** | | | | |
| **“Control-group” (n=21)** | 9.7 ± 2.1 | 10.6 ± 1.4 | 14.2 ± 2.2 | 15.6 ± 2.1 | 19.1 ± 2.3 |
| **Catheter only (n=16)** | 9.9 ± 2.2 | 10.5 ± 1.5 | 14.3 ± 2.5 | 15.7 ± 2.3 | 19.5 ± 2.4 |
| **Vehicle (n=5)** | 9.2 ± 1.8 | 10.8 ± 1.1 | 14.0 ± 0.0 | 15.2 ± 1.1 | 18.0 ± 1.4 |
| **“Off-target group” (n=10)** | 9.0 ± 2.4 | 10.4 ± 3.0 | 14.2 ± 3.9 | 15.2 ± 3.9 | 19.6 ± 3.5 |
| **“Lesion-group” (n=6)** | 10.8 ± 3.4 | 13.2 ± 4.0 | 19.5 ± 12.3 | 22.2 ± 11.9 | 26.0 ± 11.0 |
|  | **Saffan dose (mg/kg) ± SD** | | | | |
| **“Control-group” (n=18)** | 4.1 ± 1.2 | 4.6 ± 1.3 | 6.9 ± 1.1 | 9.1 ± 1.5 | 11.2 ± 2.1 |
| **Catheter only (n=12)** | 3.6 ± 0.8 | 3.9 ± 0.7 | 6.5 ± 0.8 | 8.5 ± 0.9 | 10.4 ± 1.2 |
| **Vehicle (n=6)** | 5.1 ± 1.4 | 6.0 ± 0.9 | 7.8 ± 0.9 | 10.5 ± 1.4 | 12.9 ± 2.7 |
| **“Off-target group” (n=7)** | 4.1 ± 2.3 | 5.1 ± 1.9 | 7.2 ± 1.8 | 9.5 ± 2.5 | 11.1 ± 2.8 |
| **“Lesion-group” (n=6)** | 3.0 ± 0.9 | 5.1 ± 0.7 | 6.6 ± 1.5 | 8.7 ± 2.9 | 10.5 ± 2.7 |
|  | **Medetomidine dose (µg/kg) ± SD** | | | | |
| **“Control-group” (n=18)** | 80.9 ± 7.7 |  |  |  | 89.8 ± 11.8 \* |
| **Catheter only (n=12)** | 80.0 ± 6.8 |  |  |  | 89.3 ± 11.7 \* |
| **Vehicle (n=6)** | 82.7 ± 9.7 |  |  |  | 90.7 ± 13.1 \* |
| **“Off-target group” (n=6)** | 88.0 ± 15.2 |  |  |  | 88.0 ± 15.2 \* |
| **“Lesion-group” (n=5)** | 84.8 ± 10.7 |  |  |  | 100.8 ± 7.2 \* |
|  | **Ketamine dose (mg/kg) ± SD** | | | | |
| **“Control-group” (n=19)** | 27.1 ± 5.9 | 41.5 ± 10.5 | 67.8 ± 11.7 | 81.3 ± 12.8 | 109.5 ± 10.7 |
| **Catheter only (n=14)** | 26.4 ± 5.8 | 39.5 ± 11.5 | 64.5 ± 11.8 | 80.0 ± 14.4 | 110.0 ± 12.4 |
| **Vehicle (n=5)** | 29.0 ± 6.5 | 47.0 ± 4.5 | 77.0 ± 4.5 | 85.0 ± 6.1 | 108.0 ± 2.7 |
| **“Off-target group” (n=7)** | 30.0 ± 8.2 | 41.4 ± 10.7 | 70.0 ± 11.6 | 74.3 ± 12.7 | 95.7 ± 7.8 |
| **“Lesion-group” (n=6)** | 30.0 ± 6.3 | 36.7 ± 10.3 | 60.0 ± 11.0 | 70.0 ± 12.7 | 98.3 ± 11.7 |

\* For medetomidine maximal score achieved rather than score= 16.