Evaluation of nociception using quantitative pupillometry and skin conductance in critically ill unconscious patients: A pilot study

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**Supplemental Table 1.** Characteristic of the patients according to concordance in nociception detection between Skin Conductance Algesimeter and Automated Pupillometry. Data are presented as mean ± SD, median (25th-75th percentiles) or count (%).

| Characteristic                              | CONCORDANT (n=26) | NOT CONCORDANT (n=25) | p values |
|---------------------------------------------|-------------------|------------------------|----------|
| Age (years)                                 | 56 (43 - 63)      | 66 (54 – 71)           | 0.02     |
| Male, n (%)                                 | 15 (58)           | 17 (68)                | 0.57     |
| ICU admission to assessment, days           | 2 (1 – 3)         | 3 (2 – 6)              | 0.08     |
| **COMORBID DISEASES**                       |                   |                        |          |
| COPD/Asthma, n (%)                          | 4 (15)            | 5(20)                  | 0.73     |
| Heart Failure, n (%)                        | 6 (23)            | 5 (20)                 | 1.00     |
| Hypertension, n (%)                         | 14 (54)           | 13 (52)                | 1.00     |
| Diabetes, n (%)                             | 7 (27)            | 2 (8)                  | 0.14     |
| Immunosuppression, n (%)                    | 3 (12)            | 1 (4)                  | 0.61     |
| Liver cirrhosis, n (%)                      | 2 (8)             | 1 (4)                  | 1.00     |
| Chronic renal failure, n (%)                | 4 (15)            | 5 (20)                 | 0.73     |
| SOFA score on admission                     | 9 (8-12)          | 10 (8-12)              | 0.53     |
| **LIFE-SUPPORT THERAPIES**                  |                   |                        |          |
|                | Group 1 | Group 2 | p-value |
|----------------|---------|---------|---------|
| CRRT, n (%)    | 4 (15)  | 4 (16)  | 1.00    |
| ECMO, n (%)    | 2 (8)   | 2 (8)   | 1.00    |
| **DRUGS**      |         |         |         |
| Opioids, n (%) | 20 (77) | 19 (76) | 1.00    |
| Sedatives, n (%)| 21 (81) | 17 (68) | 0.35    |
| NMBAs, n (%)   | 10 (39) | 5 (20)  | 0.22    |
| Vasopressors, n (%) | 19 (73) | 15 (60) | 0.38    |
| Inotroop agents, n (%) | 3 (12)  | 2 (8)   | 1.00    |
| Brain Injury, n (%) | 17 (65) | 15 (60) | 0.77    |
| ICU mortality, n (%) | 11 (42) | 8 (32)  | 0.57    |
| **BASAL VITAL PARAMETERS** |         |         |         |
| MAP, mmHg      | 83 (71 – 99) | 84 (69-100) | 0.70 |
| Heart Rate, bpm | 85 (72 – 107) | 79 (70 – 88) | 0.13 |
| Respiratory Rate, bpm | 22 (13 – 30) | 22 (18 – 30) | 0.50 |
| Arterial Saturation, % | 98 (95 – 100) | 97 (96 – 99) | 0.69 |
| Temperature, °C | 36.3 (35.0 – 36.9) | 37.0 (36.8 – 37.4) | <0.01 |
| GCS            | 3 (3 - 3) | 3 (3 - 3) | 0.39    |
| **BASAL NOCICEPTION PARAMETERS** |         |         |         |
| Pupillometry Values |         |         |         |
|                           | 2.7 (2.1 - 3.3) | 2.7 (2.4 - 2.9) | 0.97 |
|---------------------------|-----------------|-----------------|------|
| Size, mm                  |                 |                 |      |
| Constriction Rate, %      | 18 (13 - 24)    | 23 (15 - 27)    | 0.21 |
| Constriction Velocity, mm/s| 1.22 (1.03 – 1.93) | 1.66 (0.98 – 2.36) | 0.40 |
| Anisocoria                | 2 (8)           | 1 (4)           | 1.00 |

**Algesimeter Values**

|                           |                 |                 |      |
|---------------------------|-----------------|-----------------|------|
| Area huge peak,           | 0 (0 – 0)       | 0 (0 – 0)       | 0.31 |
| Peak/Sec (NSCF)           | 0 (0 – 0)       | 0 (0 – 0)       | 0.96 |
| Average Rise, μSs         | 0 (0 – 0)       | 0 (0 – 0)       | 0.16 |
| Average Peak, μSs         | 0 (0 – 0)       | 0 (0 – 0)       | 0.96 |

COPD = chronic obstructive pulmonary disease; ICU = intensive care unit; AP = automated pupillometry; SOFA = Sequential Organ Failure Assessment, CRRT = Continuous Renal Replacement Therapy, ECMO = Extracorporeal Membrane Oxygenator, NMBAs = Neuromuscular Blocking Agents, MAP = mean arterial pressure; GCS = Glasgow Coma Scale, NSCF = number of skin conductance fluctuations per second