

**Supplemental Table 1. Characteristics of trauma patients with and without major head injury**

| Characteristics                                   | No Major Head Injury <sup>a</sup><br>( <i>n</i> =77) <sup>b</sup> | Major Head Injury <sup>a</sup><br>( <i>n</i> =59) <sup>b</sup> | <i>p</i>          |
|---------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------|-------------------|
| <b>Demographics</b>                               |                                                                   |                                                                |                   |
| Sex (male : female)                               | 57 : 20                                                           | 44 : 15                                                        | 1.00              |
| Age (years)                                       | 37 (18 – 75); <i>n</i> =76                                        | 42 (18 – 94); <i>n</i> =59                                     | 0.17              |
| Preinjury ASA PS (ASA I : II : III)               | 54 : 18 : 5                                                       | 31 : 19 : 9                                                    | 0.08              |
| <b>Injuries</b>                                   |                                                                   |                                                                |                   |
| Mechanism of injury (blunt : penetrating)         | 66 : 11                                                           | 52 : 7                                                         | 0.80              |
| NISS                                              | 14 (1 – 59)                                                       | 48 (10 – 75)                                                   | <b>&lt;0.0001</b> |
| ISS                                               | 10 (1 – 43)                                                       | 34 (9 – 75)                                                    | <b>&lt;0.0001</b> |
| Admission BE (mmol/L)                             | -3.0 (-25.9 – 3.4); <i>n</i> =70                                  | -3.9 (-26.0 – 2.1); <i>n</i> =57                               | 0.25              |
| <b>TCC analyses</b>                               |                                                                   |                                                                |                   |
| Admission TCC (AU/mL)                             | 0.81 (0.08 – 14.1)                                                | 1.11 (0.08 – 12.1)                                             | 0.08              |
| TCC-AUC <sub>3-6</sub> (AU/mL×h)                  | 2.38 (0.28 – 21.8); <i>n</i> =66                                  | 2.94 (0.25 – 52.6); <i>n</i> =54                               | 0.29              |
| Time from injury to first sample (hours: min)     | 1:07 (0:20 – 4:06)                                                | 1:23 (0:28 – 5:40)                                             | <b>0.02</b>       |
| Time from adm. to first sample (hours: min)       | 0:10 (0:00 – 0:53)                                                | 0:10 (0:00 – 1:27)                                             | 0.63              |
| Samples analysed per patient                      | 6 (1 – 35)                                                        | 8 (1 – 29)                                                     | <b>&lt;0.0001</b> |
| Mean interpolated TCC (AU/mL)                     |                                                                   |                                                                |                   |
| Day 0                                             | 0.80 (0.17 – 15.1); <i>n</i> =77                                  | 1.04 (0.30 – 7.04); <i>n</i> =59                               | 0.05              |
| Day 4                                             | 1.68 (0.47 – 12.7); <i>n</i> =13                                  | 1.91 (0.08 – 5.39); <i>n</i> =26                               | 0.91              |
| Day 7                                             | 2.65 (1.54 – 15.2); <i>n</i> =8                                   | 2.24 (0.72 – 5.05); <i>n</i> =20                               | 0.42              |
| Day 9                                             | 2.68 (1.34 – 21.4); <i>n</i> =6                                   | 2.39 (0.53 – 7.64); <i>n</i> =17                               | 0.62              |
| <b>Hospital treatment</b>                         |                                                                   |                                                                |                   |
| Primary : secondary admission                     | 73 : 4                                                            | 47 : 12                                                        | <b>0.01</b>       |
| Time from injury to admission (hours)             | 0:52 (0:10 – 3:50)                                                | 1:05 (0:13 – 5:25)                                             | 0.06              |
| Transfused before ICU (yes : no : unknown)        | 11 : 65 : 1                                                       | 19 : 40 : 0                                                    | <b>0.02</b>       |
| Transfusions before ICU (RBC units)               | 11 (2 – 24); <i>n</i> =11                                         | 4 (1 – 61); <i>n</i> =19                                       | 0.17              |
| Hospital length of stay (days)                    | 5 (1 – 50)                                                        | 8 (1 – 52)                                                     | <b>0.02</b>       |
| ICU length of stay (days)                         | 2 (1 – 35); <i>n</i> =74                                          | 6 (1 – 52); <i>n</i> =57                                       | <b>0.0008</b>     |
| SOFA score                                        |                                                                   |                                                                |                   |
| Day 0                                             | 3 (0 – 13); <i>n</i> =74                                          | 9 (1 – 16); <i>n</i> =59                                       | <b>&lt;0.0001</b> |
| Day 4                                             | 3 (1 – 15); <i>n</i> =12                                          | 9 (4 – 15); <i>n</i> =27                                       | 0.08              |
| Day 7                                             | 10 (1 – 14); <i>n</i> =7                                          | 8 (4 – 12); <i>n</i> =19                                       | 0.38              |
| Day 9                                             | 10 (0 – 15); <i>n</i> =5                                          | 8 (1 – 10); <i>n</i> =15                                       | 0.19              |
| Ventilator treatment (yes : no)                   | 20 : 57                                                           | 47 : 12                                                        | <b>&lt;0.0001</b> |
| Time on ventilator (days)                         | 2 (1 – 26); <i>n</i> =20                                          | 6 (1 – 35); <i>n</i> =47                                       | 0.07              |
| Sent to other hospital still intubated (yes : no) | 3 : 17                                                            | 22 : 25                                                        | <b>0.02</b>       |
| <b>Survival</b>                                   |                                                                   |                                                                |                   |
| Dead at 30 days (yes : no)                        | 4 : 73                                                            | 16 : 43                                                        | <b>0.0005</b>     |
| Time to death (days)                              | 0 (0 – 3); <i>n</i> =4                                            | 1 (0 – 23); <i>n</i> =16                                       | 0.31              |
| <b>Predefined outcome variable</b>                |                                                                   |                                                                |                   |
| Ventilator-free days                              | 30 (0 – 30)                                                       | 9 (0 – 30)                                                     | <b>&lt;0.0001</b> |

Values are given as median and range unless otherwise stated.

<sup>a</sup> Major head injury was defined as maximum Abbreviated Injury Scale (AIS) severity code ≥3 in ISS region Head or neck.

<sup>b</sup> *n* is given only where group size is <59 or <77.

Abbreviations: ASA PS = American Society of Anesthesiologists Physical Status Classification System. NISS = New Injury Severity Score. ISS = Injury Severity Score. BE = Base Excess. AU = Arbitrary units. Adm. = Admission. ICU = Intensive Care Unit. (RBC = Packed Red Blood Cells. SOFA score = Sequential Organ Failure Assessment score.