Appendix B: Summary of Patient Demographics Based on Alive/Dead or Favourable/Unfavourable Outcome Groups – Patients with Identifiable Individual ICP Threshold - Mann U and Chi-Square Testing

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| --- | --- | --- | --- | --- |
| **Variable** | **Mean/Median Value (+/-sd or IQR)** | **p-value** | **Mean/Median Value (+/-sd or IQR)** | **p-value** |
| **Alive** | **Dead** | **Favourable** | **Unfavourable** |
| ***Number of Patients*** | 106 | 22 | 70 | 58 |
| ***Age*** | 42.7 (18.3) | 64.4 (12.1) | **<0.0001** | 40.1 (17.5) | 54.2 (18.4) | **<0.0001** |
| ***Sex (# Male)*** | 87 | 15 | 0.158 | 57 | 45 | 0.591 |
| ***Admission GCS (Total)*** | 8 (5 to 12) | 9 (4 to 14) | 0.579 | 8 (6 to 12) | 7 (3 to 13) | 0.244 |
| ***Admission GCS Motor*** | 4 (2 to 5) | 4 (2 to 6) | 0.868 | 4 (3 to 5) | 4 (1 to 6) | 0.177 |
| ***Admission Pupil Status*** | \* | \* | NS | \* | \* | NS |
| ***Length of Recording (hours)*** | 158.0 (107.0) | 143.5 (92.3) | 0.540 | 144.8 (105.2) | 168.3 (103.0) | 0.059 |
| ***Mean ICP (mm Hg)*** | 12.3 (4.8) | 16.2 (12.9) | 0.457 | 12.6 (4.8) | 13.6 (9.0) | 0.875 |
| ***Mean CPP (mm Hg)*** | 70.5 (8.6) | 68.5 (13.2) | 0.822 | 70.5 (9.2) | 69.8 (10.0) | 0.701 |
| ***MAP (mm Hg)*** | 82.9 (8.0) | 68.5 (13.2) | 0.201 | 83.0 (8.6) | 83.3 (7.6) | 0.705 |
| ***Mean PRx (a.u.)*** | 0.011 (0.143) | 0.147 (0.183) | **<0.001** | -0.003 (0.148) | 0.080 (0.161) | **0.005** |
| ***Mean Hourly Dose of ICP > 20 mm Hg*** | 33.1 (124.8) | 202.8 (507.7) | 0.942 | 36.1 (150.6) | 95.9 (324.1) | 0.380 |
| ***Mean Hourly Dose of ICP > 22 mm Hg*** | 31.2 (124.3) | 200.4 (507.6) | 0.947 | 34.4 (150.3) | 92.6 (323.8) | 0.317 |
| ***Mean Hourly Dose of ICP Above Individual Threshold*** | 31.3 (78.7) | 150.8 (347.8) | **0.010** | 24.0 (55.3) | 86.4 (235.7) | **0.020** |

a.u. = arbitrary units, AUC = integrated area under the RAP over time curve, CPP = cerebral perfusion pressure, GCS = Glasgow Coma Scale, ICP = intra-cranial pressure, IQR = inter-quartile range, mm Hg = millimetres of Mercury, Mann-U = Mann-Whitney-U test, MAP = mean arterial blood pressure, PRx = pressure reactivity index (correlation between ICP and MAP). Note: all bolded p-values are those <0.05 when comparing the variables between Alive/Dead and Favourable/Unfavourable outcome groups. Favourable = Glasgow Outcome Scale of 5 to 8, Unfavourable = Glasgow Outcome Scale of 1 to 4. \*No statistically significant difference for number of patients with bilaterally reactive, unilateral reactive, or bilaterally unreactive pupils between both Alive/Dead and Favourable/Unfavourable groups. NOTE: the mean values for mean hourly dose of ICP above 20 mm Hg and 22 mm Hg, displayed a large standard deviation, with low numbers in the dead group of patients. As such, given these factors, Mann-U testing failed to display a statistically significant difference between means, despite the mean values appear strikingly different at face value. Figure 2 in the main body of the manuscript highlights the lack of difference in median values for these ICP metrics, displaying almost identical medians between both sets of dichotomized outcome groups.