**Supplementary table 1. Comparison of parameters between with and without pneumonia patients underwent craniotomy for brain tumor (mean ± SD)**

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| --- | --- | --- | --- |
| **Variables** | **Non-pneumonia**  **N = 226 (60.8%)** | **Pneumonia**  **N = 146 (39.2%)** | **P value** |
| Age (years, mean ± SD) | 45 ± 13 | 52 ± 12 | **<0.001** |
| Diabetes | 4 (1.8) | 10 (6.8) | **0.012** |
| History of stroke | - | 4 (2.7) | **0.012** |
| Operation time [(h, Median (IQR)] | 5.0 (3.7-5.8) | 5.1 (4.0-6.5) | **0.014** |
| **Postoperative laboratory tests** |  |  |  |
| Red blood cells, (1012/L) | 3.80 ± 0.64 | 3.59 ± 0.61 | **0.002** |
| Hemoglobin (g/L) | 113 ± 19 | 109 ± 17 | **0.049** |
| Hematocrit (%) | 33.8 ± 5.4 | 32.7 ± 5.0 | **0.041** |
| FIB (g/L) | 1.71 ± 0.63 | 1.86 ± 0.68 | **0.039** |
| Glucose (mmol/L) | 5.94 ± 1.60 | 6.34 ± 2.11 | **0.040** |
| Mg (mmol/L) | 0.78 ± 0.12 | 0.75 ± 0.09 | **0.014** |
| Prealbumin (g/L) | 0.19 ± 0.05 | 0.18 ± 0.04 | **0.019** |
| Total protein (g/L) | 53.3 ± 7.6 | 51.3 ± 7.7 | **0.015** |
| Albumin (g/L) | 29.1 ± 5.2 | 27.1 ± 5.3 | **<0.001** |
| Albumin/globulin ratio | 1.22 ± 0.23 | 1.13 ± 0.25 | **0.001** |

FIB, fibrinogen; Mg, magnesium.