Table 1. Demographic and Injury Severity Characteristics

|  |  |
| --- | --- |
| **Variable** | **Mean ± sd or n(%)** |
| Age | 33.2 ± 14.5 |
| Sex |  |
| Male | 379 (86.5) |
| Female | 59 (13.5) |
| Race |  |
| White | 150 (34.2) |
| Black | 113 (25.8) |
| Hispanic | 162 (37.0) |
| Asian | 12 (2.7) |
| Other | 1 (0.2) |
| Mechanism of injury |  |
| Automobile | 191 (43.6) |
| Motorcycle | 17 (3.9) |
| Bicycle | 5 (1.1) |
| Moped | 1 (0.2) |
| Train | 2 (0.5) |
| Truck | 1 (0.2) |
| Fall/jump | 41 (9.4) |
| Assault | 98 (22.4) |
| Explosion | 1 (0.2) |
| Gunshot wound | 57 (13.0) |
| Hit by falling object | 2 (0.5) |
| Industry accident | 1 (0.2) |
| Sports | 2 (0.5) |
| Others | 1 (0.2) |
| Unknown | 18 (4.1) |
| Moto GCS |  |
| 1-3 | 149 (34.0) |
| 4-6 | 284 (64.8) |
| Untestable | 5 (0.01) |
| Pupils |  |
| Both reactive | 181 (41.3) |
| 1 Unreactive | 44 (10.0) |
| Both unreactive | 109 (24.9) |
| Untestable | 104 (23.7) |
| Type of injury (Marshall CT category) |  |
| Diffuse injury 1 or 2 | 115 (26.2) |
| Diffuse injury 3 or 4 | 82 (18.7) |
| Mass lesion | 240 (54.8) |
| Unknown | 1 (0.2) |
| ISS | 27.7 ± 5.6 |

Table 2. Physiologic Monitoring Data

|  |  |  |
| --- | --- | --- |
| **Variable** | **Mean ± sd or %** | **No. of patients** |
| ICP, mm Hg | 19.8 ± 11.2 | 438 |
| MAP, mm Hg | 92.0 ± 13.7 | 438 |
| CPP, mm Hg | 72.3 ± 17.6 | 438 |
| SjvO2, % | 71.2 ± 10.8 | 373 |
| SaO2, % | 98.8 ± 1.8 | 429 |
| PCO2, % | 32.4 ± 6.1 | 438 |
| PbtO2, % | 29.5 ± 21.0 | 35 |

Table 3. Long-term Neurological Outcomes and Intensive Care Unit Length of Stay

|  |  |  |
| --- | --- | --- |
| **Variable** | **Mean ± sd or n(%)** | **No. of patients** |
| Glasgow Outcome Scale (Month 6) |  | 438 |
| Good recovery | 71 (16.2) |  |
| Moderate disability | 77 (17.6) |  |
| Severe disability | 65 (14.8) |  |
| Vegetative | 22 (5.0) |  |
| Dead | 124 (28.3) |  |
| Unknown | 79 (18.0) |  |
| ICU LOS | 19.4 ± 13.9 | 379 (109 deaths) |

Table 4. Joint Modeling for Intracranial Pressure and Intensive Care Unit Length of Stay

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Event Process | | |  | Longitudinal Process | | |
|  | Value | Std.Err | p-value |  | Value | Std.Err | p-value |
| Age | -0.01 | 0.01 | 0.2639 | (Intercept) | 20.38 | 2.09 | **< 0.0001** |
| Gendermale | -0.04 | 0.31 | 0.9053 | Age | -0.16 | 0.03 | **< 0.0001** |
| Onereactive | -0.50 | 0.45 | 0.2736 | Gendermale | 3.45 | 1.51 | **0.0224** |
| Bothreactive | -0.00 | 0.24 | 0.9858 | Onereactive | 2.82 | 1.43 | **0.0485** |
| CTD34 | -0.64 | 0.33 | 0.0534 | Bothreactive | -0.78 | 0.84 | 0.3545 |
| CTM12 | -0.91 | 0.27 | **0.0007** | CTD34 | 4.42 | 1.23 | **0.0003** |
| ISS | -0.01 | 0.02 | 0.7341 | CTM12 | 4.03 | 1.03 | **0.0001** |
| Assoct | -0.02 | 0.02 | 0.4681 | HAI | 0.00 | 0.00 | 0.1592 |
| log(ξ1) | -7.25 | 1.00 |  | GCS.sum | -0.32 | 0.11 | **0.0052** |
| log(ξ2) | -5.49 | 0.93 |  | log(σ) | 2.05 | 0.02 |  |
| log(ξ3) | -5.34 | 0.93 |  |  |  |  |  |
| log(ξ4) | -4.67 | 0.95 |  | *D*11 | 37.80 | 11.19 |  |
| log(ξ5) | -4.90 | 0.97 |  |  |  |  |  |
| log(ξ6) | -4.60 | 0.96 |  |  |  |  |  |
| log(ξ7) | -4.04 | 0.99 |  |  |  |  |  |

Figure 1. CT Classification Categories and Intensive Care Unit Length of Stay

