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| **Supplementary Table 1 – Demographic comparison between the prospective and retrospective cohorts** |
|  | **HIPTCN patients****n (%) or mean (SD)** | **Retrospective patients****n (%)** | **Total patients****n (%)** | ***p-value\**** |
| **Total** | 178 (46.4) | 206 (53.6) | 384 |  |
| **Gender** |  |  |  | 0.593 |
| Females | 98 (55.1) | 119 (57.8) | 217 (56.5) |  |
| **Age†** | 80.95 (9.1) | 81.77 (9.0) | 81.39 (9.1) | 0.880‡ |
| **Type of head trauma** |  |  |  | ***0.008*** |
| Low energy | *166 (93.3)* | *203 (98.5)* | *369 (96.1)* |  |
| Fall own height | 139 (78.1) | - |  |  |
| Fall bed | 14 (7.9) | - |  |  |
| Fall stairs | 9 (5.1) | - |  |  |
| Aggression | 4 (2.2) | - |  |  |
| High energy | *12 (6.7)* | *3 (1.5)* | *15 (3.9)* |  |
| Motor-vehicle accident | 5 (2.8) | 2 (1.0) |  |  |
| Run over by vehicle | 3 (1.7) | 1 (0.5) |  |  |
| Fall from height >3m | 4 (2.2) | - |  |  |
| **Type of hypocoagulation** |  |  |  | ***<0.0001*** |
| Anti-vitamin K | 52 (29.2) | 127 (62.0) | 179 (46.7) |  |
| NOAC | 124 (69.7) | 78 (38.0) | 202 (52.7) |  |
| Heparins | 2 (1.1) | 0 (0.0) | 2 (0.5) |  |
| **Concomitant Antiaggregation** |  |  |  | 0.423 |
| Yes | 9 (5.1) | 7 (3.4) | 16 (4.2) |  |
| No | 169 (94.9) | 198 (96.6) | 367 (95.8) |  |
| Missing data |  | *1* | *1* |  |
| **Concomitant hemorrhagic dyscrasia** | 1 (0.6) | 1 (0.5) | 2 (0.5) | 1.000§ |
| **NTP 1999 Risk Factors** |  |  |  |  |
| Alcohol abuse | 0 | 8 (3.9) | 8 (2.1)  | ***0.008§*** |
| Drug abuse | 0 | 0 | 0 | - |
| Previous neurosurgery | 5 (2.8) | 0 | 5 (1.3)  | ***0.021§*** |
| Epilepsy | 3 (1.7) | 0 | 3 (0.8) | 0.099§ |
| **Admission GCS** |  |  |  | 0.274 |
| 15 | 141 (79.2) | 173 (84.8) | 314 (82.2) |  |
| 14 | 36 (20.2) | 29 (14.2) | 65 (17.0) |  |
| 13 | 1 (0.6) | 2 (1.0) | 3 (0.8) |  |
| Missing data |  | *2* | *2* |  |
| **Admission Symptoms** |  |  |  |  |
| Headache (n=176) | 30 (17.0) | - |  | - |
| Loss of Consciousness (n=383) || | 23 (13.0) | 10 (4.9) | 33 (8.6)  | ***0.005*** |
| Amnesia (n=382) || | 23 (13.1) | 12 (5.8) | 35 (9.2)  | ***0.014*** |
| Vomit (n=177) | 7 (4.0) | - |  | - |
| Focal Deficit | 9 (5.1) | 0 | 9 (2.3)  | ***0,001§*** |
| Usual neurological status | 173 (97.2) | 198 (96.1) | 371 (96.6) | 0.562 |
| **Patients with surveillance CT** | 177 (99.4) | 186 (90.3) | 363 (94.5)  | ***<0.0001*** |
| **Timing for surveillance CT** |  |  |  | ***0.002*** |
| <12h | 0 | 2 (1.1) | 2 (0.6) |  |
| 12-24h | 79 (44.6) | 52 (28.1) | 131 (36.2) |  |
| >24h | 98 (55.4) | 131 (70.8) | 229 (63.3) |  |
| **Worsening GCS**¶ | 4 (2.2) | - |  | - |
| **New neurologic deficit** | 2 (1.1) | 0 | 2 (0.5) | 0.214§ |
| \* - p-values calculated using the Chi-square test, unless otherwise specified; † - Age is reported as mean (SD), in years. ‡ - p-value calculated using an unpaired two-tailed t-student test; § - p-value was calculated using the Fisher Exact test; ||- missing data on prospective cohort; ¶ - Post-surveillance GCS was only evaluated in the prospective cohort. GCS – Glasgow Coma Scale; NOAC – Novel Oral Anticoagulant; NTP – National traumatic brain injury protocol; SD – standard deviation. |

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| **Supplementary Table 2 – Risk analysis** |
| **Variables\*** | **Delayed intracranial hemorrhage****n (%)** | **Neurosurgical hospitalization****n (%)** | **Complications****n (%)** | **Complication hospitalization****n (%)** |
| **Gender** |  |  |  |  |
| Female | 3 (3.1) | 3 (3.1) | 3 (3.1) | 0 (0.0) |
| Male | 1 (1.3) | 0 (0.0) | 4 (5.0) | 2 (2.5) |
| p-value | *0.629* | *0.253* | *0.702* | *0.201* |
| **Age** |  |  |  |  |
| ≤ 65 years | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| 66-80 years | 3 (4.3) | 2 (2.9) | 3 (4.3) | 1 (1.4) |
| > 80 years | 1 (1.0) | 1 (1.0) | 4 (4.0) | 1 (1.0) |
| p-value† | *0.323* | *0.608* | *0.856* | *0.926* |
| **Type of head trauma** |  |  |  |  |
| Low Energy | 4 (2.4) | 3 (1.8) | 6 (3.6) | 2 (1.2) |
| High energy | 0 (0.0) | 0 (0.0) | 1 (8.3) | 0 (0.0) |
| p-value | *1.000* | *1.000* | *0.392* | *1.000* |
| **Type of Anticoagulation** |  |  |  |  |
| Anti-K | 2 (3.9) | 2 (3.8) | 3 (5.8) | 1 (1.9) |
| NOAC | 2 (1.6) | 1 (0.8) | 4 (3.2) | 1 (0.8) |
| Heparins | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| p-value† | *0.632* | *0.354* | *0.701* | *0.805* |
| **Concomitant Antiaggregation** |  |  |  |  |
| Yes | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| No | 4 (2.4) | 3 (1.8) | 7 (4.1) | 2 (1.2) |
| p-value | *1.000* | *1.000* | *1.000* | *1.000* |
| **Concomitant Dyscrasia** |  |  |  |  |
| Yes | 1 (100) | 1 (100) | 0 (0.0) | 0 (0.0) |
| No | 3 (1.7) | 2 (1.1) | 7 (4.0) | 2 (1.1) |
| p-value | ***0.023*** | ***0.017*** | *1.000* | *1.000* |
| **NTP 1999 Risk Factors**  |  |  |  |  |
| Yes | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| No | 4 (2.3) | 3 (1.7) | 7 (4.1) | 2 (1.2) |
| p-value | *1.000* | *1.000* | *1.000* | *1.000* |
| **Admission GCS** |  |  |  |  |
| 15 | 3 (2.1) | 2 (1.4) | 4 (2.8) | 1 (0.7) |
| 14 | 1 (2.8) | 1 (2.8) | 3 (8.3) | 1 (2.8) |
| 13 | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| p-value† | *0.963* | *0.845* | *0.311* | *0.572* |
| **Admission Symptoms**‡ |  |  |  |  |
| Yes | 2 (3.1) | 1 (1.5) | 0 (0.0) | 0 (0.0) |
| No | 2 (1.8) | 2 (1.8) | 6 (5.4) | 1 (0.9) |
| p-value | *0.622* | *1.000* | *0.087* | *1.000* |
| **Worsening GCS**† |  |  |  |  |
| Yes | 0 (0.0) | 0 (0.0) | 4 (100) | 2 (50.0) |
| No | 4 (2.3) | 3 (1.7) | 3 (1.7) | 0 (0.0) |
| p-value | *1.000* | *1.000* | ***<0.0001*** | ***<0.0001*** |
| **New neurologic deficit** |  |  |  |  |
| Yes | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| No | 4 (2.3) | 3 (1.7) | 7 (4.0) | 2 (1.1) |
| p-value | *1.000* | *1.000* | *1.000* | *1.000* |
| \* - p-values were calculated using Fisher’s Exact Test, unless otherwise specified; † - p-value was calculated using the Chi-square test; ‡ - Symptoms comprise headaches, loss of consciousness, vomits, amnesia and focal deficit. Anti-K – Anti-vitamin K anticoagulants; GCS – Glasgow Coma Scale; PSCT – Post-surveillance CT scan. |