**Table 1.** Patient Characteristics (Categorical Data)

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **PDPH/Case****(n= 37)** | **No PDPH/Control****(n= 37)** | **Total (n= 74)** |
| **n** | **%** | **n** | **%** | **n** | **%** |
| BMI | Obesity | 15 | 60 | 10 | 40 | 25 | 33.8 |
| Non Obesity | 22 | 44.9 | 27 | 55.1 | 49 | 66.2 |
| Neurological disorders | Yes | 9 | 90 | 1 | 10 | 10 | 13.5 |
| No | 28 | 43.8 | 36 | 56.3 | 64 | 86.5 |
| Spinal history | Yes | 6 | 66.7 | 3 | 33.3 | 40 | 54.1 |
| No | 31 | 47.7 | 34 | 52.3 | 34 | 45.9 |
| Total punctures | *Multiple* | 30 | 75 | 10 | 25 | 8 | 10.8 |
| *Single* | 7 | 20.6 | 27 | 79.4 | 66 | 89.2 |
| Bevel orientation | Sagittal | 2 | 25 | 6 | 75 | 8 | 10.8 |
| Horizontal | 35 | 53 | 31 | 47 | 66 | 89.2 |
| Needle size | 25 G | 8 | 88.9 | 1 | 11.1 | 9 | 12.2 |
| 26 G | 26 | 46.4 | 30 | 53.6 | 56 | 75.7 |
| 27 G | 3 | 33.3 | 6 | 66.7 | 9 | 12.2 |
| Mobilization | Yes | 14 | 31.1 | 31 | 68.9 | 45 | 60.8 |
|  | No | 23 | 79.3 | 6 | 20.7 | 29 | 39.2 |

PDPH: *post-dural puncture headache*; BMI: *body mass index*

**Table. 2** Patient Characteristics (Numerical Data)

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **PDPH (n= 37)** | **Without PDPH (n= 37)** | **Total (n= 74)** |
| **Mean ± SB****Median****Min-max** | **Mean ± SB****Median****Min-max** | **Mean ± SB****Median****Min-max** |
| Age (years) | 28.22 ± 0.7828.0019-44 | 28.05 ± 4,83 27.0017-44 | 28.14 ± 4.892817 – 44 |
| Systolic (mmHg) | 126 ± 2.16130.00105-150 | 121.92 ± 1,74120.00110-150 | 124.34 ± 12.14120(105 – 150) |
| Diastolic (mmHg) | 81.92 ± 1,4683.0060-90 | 77.51 ± 1,1280.0060-90 | 79.72 ± 8.188060 – 90 |
| MAP (mmHg) | 69.18 ± 1,2469.0063-72 | 70.18 ± 1,2870.0064-80 | 69.19 ± 0.8772.0065 - 78 |

**Table 3.** Factors influence PDPH (Categorical Data)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **PDPH** | **p** | **OR** | **95% CI** |
| **Yes****(n = 37)** | **No****(n = 37)** | ***lower*** | ***upper*** |
| **BMI** |  |  |  | 1.841 | 0.692 | 4.897 |
| obesity | 15 (60%) | 10 (40%) | 0.326¥ |  |  |  |
| non obese | 22 (44.9%) | 27 (55.1%) |  |  |  |  |
| **Neurological disorders** |  |  |  | 11.571 | 1.383 | 96.808 |
| Yes | 9 (90%) | 1 (10%) | 0.017¥\* |  |  |  |
| No | 28 (43.8%) | 36 (56.3%) |  |  |  |  |
| **Spinal history** |  |  |  | 2.194 | 0.505 | 9.530 |
| Yes | 6 (66.7%) | 3 (33.3%) | 0.240£ |  |  |  |
| No | 31 (47.7%) | 34 (52.3%) |  |  |  |  |
| **Total punctures** |  |  |  | 11.571 | 3.864 | 34.656 |
| Multiple | 30 (75%) | 10 (25%) | <0.001¥\* |  |  |  |
| Single | 7 (20.6%) | 27 (79.4%) |  |  |  |  |
| **Bevel orientation** |  |  |  | 0.295 | 0.055 | 1.571 |
| Sagittal | 2 (25%) | 6 (75%) | 0.131£ |  |  |  |
| Horizontal | 35 (53%) | 31 (47%) |  |  |  |  |
| **Needle size** |  |  |  | 9.931 | 1.174 | 84.038 |
| 25 G | 8 (88.9%) | 1 (11.1%) | 0.014£\* |  |  |  |
| 26 G | 26 (46.4%) | 30 (53.6%) |  |  |  |  |
| 27 G | 3 (33.3%) | 6 (66.7%) |  |  |  |  |
| **Mobilization** |  |  |  | 0.118 | 0.039 | 0.353 |
| Yes | 14 (31.1%) | 31 (68.9%) | <0.001¥\* |  |  |  |
| No | 23 (79.3%) | 6 (20.7%) |  |  |  |  |

\*Significant (p < 0.05); ¥Yates Correction; £Fisher’s exact test

**Table 4.** Factors influence PDPH (Numerical Data)

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | PDPHMean ± SDMedianMin-max | No PPDHMean ± SDMedianMin-max | *P* |
| MAP (mmHg) | 69.18 ± 1,2469.0063-72 | 70.18 ± 1,2870.0064-80 | 0,311ʍ |
| Age (years) | 28.22 ± 0.7828.0019-44 | 28.05 ± 4,83 27.0017-44 | 0,261t |
| MAP (*mean arterial* pressure); SD (standard deviation); min (minimal); max (maximal); \*significant (p<0.05); ʍ*Mann Whitney*; ʈ*Independent t-test.* |

**Table 6.** The interaction effect based on the results of bivariate and multivariate analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Variable** | **OR Bivariat** | **OR multivariate** | **Interaction effect** |
| 1 | Neurological Disorders | 11,591 | 9,306 | *Multiplicative* |
| 2 | Total Puncture | 11,571 | 4,798 | *Multiplicative* |
| 3 | Needle Size | 9,931 | 3,362 | *Multiplicative* |
| 4 | Mobilization | 0,118 | 0,162 | *Additives* |

OR, *odd ratio*; if OR bivariate>multivariate: *multiplicative*;if OR multivariate>bivariate: *additive;*

**a**

**b**

**Figure 1.** Receiver Operating Characteristics (ROC) of age [**a**] and mean arterial pressure (MAP) [**b**] towards post-dural puncture headache (PDPH)