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| **Table 1. Neuroradiological assessment of presurgical MR imaging features across the entire medulloblastoma dataset stratified by molecular subtypes** | | | | | | | |
|  |  | Molecular Subtypes | | | | Total | *P* value |
|  |  | WNT | SHH | Group3 | Group4 |
| Location of the primary tumor | | | | | |  | <0.0001\*\*\*d |
| Midline vermis/fourth ventricle | | 79 (68.10%) | 90 (43.69%) | 54 (56.25%) | 186 (57.94%) | 409 (55.35%) | 0.0002\*\*\* |
| Fourth ventricle-uni-CPA | | 21 (18.10%) | 17 (8.25%) | 14 (14.58%) | 53 (16.51%) | 105 (14.21%) | 0.031\* |
| Fourth ventricle-bi-CPA | | 7 (6.03%) | 17 (8.25%) | 20 (20.83%) | 61 (19.00%) | 105 (14.21%) | <0.0001\*\*\*\* |
| Within CPA | | 2 (1.72%) | 2 (0.97%) | 1 (1.04%) | 1 (0.31%) | 6 (0.81%) | 0.308 |
| Cerebellar hemisphere&midline/fourth ventricle | | 6 (5.17%) | 35 (16.99%) | 7 (7.29%) | 14 (4.36%) | 62 (8.39%) | <0.0001\*\*\*\* |
| Cerebellar hemisphere | | 1 (0.86%) | 45 (21.84%) | 0 (0.00%) | 6 (1.87%) | 52 (7.04%) | <0.0001\*\*\*\* |
| Total | | 116 (100.00%) | 206 (100.00%) | 96 (100.00%) | 321 (100.00%) | 739 (100.00%) |  |
| Enhancement of the primary tumor | | | | | | | |
| The proportion of enhancementa | median (Q1, Q3) | 34.80% (13.60%,53.85%) | 21.85% (10.25%,37.85%) | 32.60% (19.45%,47.15%) | 14.40% (6.75%,28.30%) | 21.15% (8.82%, 38.43%) | <0.0001\*\*\*\* |
| mean (std) | 34.46% (22.09%) | 25.49% (18.92%) | 34.87% (19.82%) | 19.66% (16.96%) | 25.58% (19.74%) | <0.0001\*\*\* |
| The proportion of enhancement, stratified by three classes | none/minimal (<=10%) | 21 (18.26%) | 50 (24.51%) | 12 (12.63%) | 125 (39.18%) | 208 (28.4%) | <0.0001\*\*\*\* |
| heterogeneous (10%-50%) | 60 (52.17%) | 126 (61.76%) | 63 (66.32%) | 168 (52.66%) | 417 (56.9%) |  |
| diffuse (>50%) | 34 (29.57%) | 28 (13.73%) | 20 (21.05%) | 26 (8.15%) | 108 (14.7%) |  |
| Total | 115 (100.0%) | 204 (100.0%) | 95 (100.00%) | 319 (100.00%) | 733 (100.0%) |  |
| The intensity of enhancementb | none enhancement | 4 (3.48%) | 7 (3.43%) | 2 (2.11%) | 17 (5.33%) | 30 (4.1%) | 0.002\*\* |
| lower enhancement | 45 (39.13%) | 106 (51.96%) | 35 (36.84%) | 177 (55.49%) | 363 (49.5%) |  |
| equal enhancement | 66 (57.39%) | 91 (44.61%) | 58 (61.05%) | 125 (39.18%) | 340 (46.4%) |  |
| Total | 115 (100.0%) | 204 (100.0%) | 95 (100.0%) | 319 (100.0%) | 733 (100.0%) |  |
| Tumor margin | | | | | | | |
| Well-defined | | 70 (60.34%) | 88 (43.14%) | 62 (64.58%) | 208 (64.80%) | 428 (58.07%) | <0.0001\*\*\*\* |
| Ill-defined | | 46 (39.66%) | 116 (56.86%) | 34 (35.42%) | 113 (35.20%) | 309 (41.93%) |  |
| Total | | 116 (100.00%) | 204 (100.00%) | 96 (100.00%) | 321 (100.00%) | 737 (100.00%) |  |
| Peritumoral edema | | | | | | | |
| Y |  | 49 (42.24%) | 110 (53.92%) | 44 (45.83%) | 132 (41.12%) | 335 (45.45%) | 0.032\* |
| N |  | 67 (57.76%) | 94 (46.08%) | 52 (54.17%) | 189 (58.88%) | 402 (54.55%) |  |
| Total |  | 116 (100.00%) | 204 (100.00%) | 96 (100.00%) | 321 (100.00%) | 737 (100.00%) |  |
| Cystic change/necrosis | | | | | | | |
| Y |  | 85 (73.28%) | 147 (72.06%) | 71 (73.96%) | 262 (81.62%) | 565 (76.66%) | 0.047\* |
| N |  | 31 (26.72%) | 57 (27.94%) | 25 (26.04%) | 59 (18.38%) | 172 (23.34%) |  |
| Total |  | 116 (100.00%) | 204 (100.00%) | 96 (100.00%) | 321 (100.00%) | 737 (100.00%) |  |
| Hydrocephalus before surgery | | | | | | | |
| Y |  | 90 (68.18%) | 194 (76.68%) | 84 (73.04%) | 304 (78.55%) | 672 (75.76%) | 0.096 |
| N |  | 42 (31.82%) | 59 (23.32%) | 31 (26.96%) | 83 (21.45%) | 215 (24.24%) |  |
| Total |  | 132 (100.00%) | 253 (100.00%) | 115 (100.00%) | 387 (100.00%) | 887 (100.00%) |  |
| Intracranial solid metastasesc | | | | | | | |
| Y |  | 4 (3.48%) | 40 (19.61%) | 20 (21.05%) | 62 (19.44%) | 126 (17.19%) | 0.0004\*\*\* |
| N |  | 111 (96.52%) | 164 (80.39%) | 75 (78.95%) | 257 (80.56%) | 607 (82.81%) |  |
| Total |  | 115 (100.00%) | 204 (100.00%) | 95 (100.00%) | 319 (100.00%) | 733 (100.00%) |  |
| aThe enhancement ratio quantifies the percentage of the primary tumor mass that exhibited enhancement.  bUsing arteriovenous blood vessels as the reference, the primary tumor mass enhancement was categorized into three groups: equal, lower, or non-enhancing.  cThe complete assessment of signal patterns of intracranial solid metastases, encompassing ependymal and leptomeningeal metastases, is detailed in Table S1.  dThe chi-square test was adopted and combined three CPA classes into one and two cerebellar classes into another when calculating the p-value.  \**P* = 0.01-0.05, \*\**P* = 0.001-0.01, \*\*\*P = 0.0001-0.001, \*\*\*\**P* < 0.0001. | | | | | | | |