**Supplementary table 1 Summaries of Initial symptoms**

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| --- | --- | --- | --- | --- |
| **Initial symptoms** | **Overall (n, %)** | **Cerebellum or fourth ventricles (n, %)** | **Sellar region (n, %)** | **Ventricles (n, %)** |
| Nausea and vomiting  | 137 | 24.0% | 72 | 32.4% | 18 | 14.0% | 14 | 25.9% |
| Headache  | 134 | 23.4% | 81 | 36.5% | 20 | 15.5% | 6 | 11.1% |
| Motor impairment  | 72 | 12.6% | 30 | 13.5% | 19 | 14.7% | 6 | 11.1% |
| Epilepsy  | 60 | 10.5% | 6 | 2.7% | 6 | 4.7% | 3 | 5.6% |
| Visual impairment  | 54 | 9.4% | 12 | 5.4% | 27 | 20.9% | 6 | 11.1% |
| By accident  | 33 | 5.8% | 7 | 3.2% | 7 | 5.4% | 7 | 13.0% |
| Abnormal behaviors  | 29 | 5.1% | 5 | 2.3% | 8 | 6.2% | 5 | 9.3% |
| Growth and endocrine dyscrasia | 25 | 4.4% | 2 | 0.9% | 18 | 14.0% | 2 | 3.7% |
| Cranial nerve impairment  | 9 | 1.6% | 2 | 0.9% | 2 | 1.6% | - | - |
| Abnormal head appearance  | 9 | 1.6% | 1 | 0.5% | 1 | 0.8% | 4 | 7.4% |
| Head tilt  | 6 | 1.1% | 4 | 1.8% | - | - | - | - |
| Abnormal temperature  | 3 | 0.5% | - | - | 3 | 2.3% |  |  |
| Pat the head | 1 | 0.2% | - | - | - | - | 1 | 1.9% |