

### 137. Supratentorial Tumors in Infancy and Childhood

— Clinical Survey on 51 Cases —

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Supratentorial tumors in childhood have been much more frequently encountered in our Department than shown in many other statistic surveys. Out of about 100 intracranial space taking lesions in patients below the age of 16 years treated in our Department, 51 were supratentorial lesions. They were neoplastic in 36 cases (11 gliomas, 10 pineal tumors, 8 craniopharyngiomas, 3 meningiomas, 2 pituitary tumors and 2 metastatic tumors) and non-neoplastic tumors in 15 cases (1 cyst of cerebral hemisphere, 3 brain abscesses, 4 cerebral paragonimiasis, 4 chronic subdural hematomas, and 3 chronic subdural hygromas).

In patients below the age of 8 years gliomas of cerebral hemisphere were common, while above 8 years, pineal body tumors and craniopharyngiomas predominated. Meningiomas and pituitary tumors were seen only in a small incidence. Signs and symptoms such as headache or papilledema were usually less significant than in adult, and focal signs also appeared only in late stage in many cases. Thus the tumors exposed were often far more extensive than expected before the operation. This seems mainly due to the skull in infancy yielding to the increased intracranial pressure. Abnormal enlargement of the head in infancy should be emphasized to be one of the most important signs in the disorders above mentioned.

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### 139. Cytological Studies on the Atypical Cell in the Circulating Blood and the Cerebrospinal Fluid of the Patients with Malignant Tumor

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To find the tumor cells in the circulating blood and the spinal fluid, authors have studied cytologically 22 specimens of the patients with brain tumor.

In these studies, one patient with brain tumor was proved to have malignant cells in 10 milliliters of specimen of blood which were obtained postoperatively by needle aspiration from the jugular vein. Neoplastic cells were identified in the cerebrospinal fluid in three cases from 30 patients whose spinal and ventricular fluid were examined. "Atypical" cells were found frequently in the circulating blood of the patients with brain tumor, especially in the blood aspirated from the draining vein postoperatively. However, these were very difficult to differentiate from tumor cells, and more over to classify them, but in such cases, these such as immature cells, megakaryocytes, endothelial cells etc.

Generally, tumor cells appear very rarely and also very difficult to detect, and so authors determined them comparing with the smears of the tissue stump which were excised from the lesions.

In this report, the appearance rate of tumor cells was very low, but authors concluded that it would be because of the characteristics of the blood circulation in the brain such as Blood-Brain-Barrier, the defect of the lymphatic system and the attitude of the tumor against the blood vessels, and also of the peculiarity of the brain tumors.

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#### 140. Neurohistological Observations of the Brain Stem in Acoustic Neuroma

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Acoustic neuroma is histologically a benign tumor but the prognosis is not always good, because it is located adjacent to vital organs, such as the pons and the medulla oblongata.

We studied the influence of the acoustic neuroma to those vital organs histologically by multiple serial sections.

In four autopsied cases of acoustic neuroma—three of them had operations and one had multiple neuromas in other parts of the brain—we found that the tumors of the brain stem present variable symptoms besides those by their direct pressure. The occlusion of the basilar artery and temporal herniation, especially the former, causes symptoms of the lesions far from the original one.