and were stimulated with various amount of fresh blood and various degree of mechanical stimuli. The degree and duration of vasospasm had studied and recorded.

The results are as follows: The vasospasm begins rapidly within one minute and reaches to the maximum within 2 minutes after local application of fresh blood, vasospasm continues in various duration. The duration of vasospasm is correlated with the degree of the vasospasm, namely vasospasm returns to normal size within 20 minutes in the group of 15% diminution or less in the stage of maximum vasospasm, about one hour in the group of 30% diminution and 2 hours or more in the group of 40% diminution. The same result was observed in the case of mechanical stimulation.

It is very interesting that the centrifugal vasoconstrictive change in the basilar artery is observed in 50% of cases with the continuous stimulation in the division of internal carotid artery (A.C.A.).

The authors had pointed out the centrifugal vasospasm to basilar artery. The remarkable vasospasm was observed in the basilar artery which clipping of internal carotid artery was done intracranially. This result of experimental study suggested the centrifugal factor of vasospasm and the authors emphasized that clipping or temporal occlusion of the main artery trunk intracranially has possibility of cause of the vasospasm of basilar artery.

I. Neurosurgery in Children

i-1. Neurosurgical Study of Head Tumors in Newborns and Infants

Akihiko HIRAYAMA, Morio MATSUNAGA and Minoru AOYAGI

Dept. of Neurosurgery, Kurashiki Central Hospital

Yoshiyuki AKIYAMA

Dept. of Pediatrics, Kurashiki Central Hospital

Katsumasa MURASE

Dept. of Radiology, Kurashiki Central Hospital

Takahiko SAIDA

Dept. of Neurosurgery, Kyoto University Medical School

Head tumors in newborn and infancy are important not only they influence on the patients' development but also offer chances to find intracranial lesion. Head tumors in those developmental stage are classified etiologically in 4 pathological units, i.e. head injury, malformation, Neoplasma and infection respectively.

In this report, head tumors due to injury, which appears most frequently, are studied with differential diagnosis of those from other causes according to our block diagram and illustrative diagnostic procedures stated by representative 3 cases.

i-2. Brain Tumors in Childhood

—Upon the Importance of Proper Early Differential Diagnosis and Emergency Treatment—

Ryuzo SHIOBARA, Haruo SUZUKI, Shoji ISHIMORI and Tsu-Wei To
*Division of Neurological Surgery, Department of Surgery, School of Medicine,
Keio University*

Upon clinical and angiographical evaluation of 52 cases of brain tumors in childhood admitted to Keio University Hospital between 1964 and 1968, the values of angiography and air study to establish the correct differential diagnosis of the brain tumor and hydrocephalus caused by multiple causes were discussed.

Brain tumor in children cases has several peculiarities such as 1) growth is apt to localize alongside with the foetal residual tissue, 2) the percentage of the infratentorial lesion is 65%, much higher than in the adult cases, 3) histologically glioma occupies 77.5% of the total cases, 4) intracranial hypertension and cephalic enlargement are the commonest manifestations due to passage disturbance of c.s.f. and it is apt to lack in focal signs frequently, 5) prognosis is poor in general and difficulty of the differential diagnosis from the congenital hydrocephalus causes the delay of the proper diagnosis and the appropriate treatment.

Additionally in some cases, emergency shunt operations such as ventriculo-atrial shunt, continuous ventricle drainage or the repeated ventricle tapping were required prior to the radical operations because of the abrupt increase of intracranial pressure not infrequently observed in the children brain tumor cases.

In conclusion prompt and deliberate preoperative examinations are particularly required in the cases of children brain tumors is stressed.

i-3. Use of Ultrasonics in Operation of Ventriculo-Atrial Shunt

Akira NISHIMOTO, Hikoza SHIMADA, Kazuhiko SADAMOTO, Shin UEDA,
Yasunori YAGYU and Masashi HONJO
*Department of Neurological Surgery, Okayama University
Medical School*

There are several methods for determining the location of the distal end of