and had drawn the composite tracing before operation to get detail information about aneurysm. In spite of above mentioned preoperative preparation for aneurysm, the form and neck of aneurysm was different from expected view in surgery occasionally. The 16 cases of anterior communicating aneurysms had divided into 5 types by view of aneurysm at surgery.

Type I: Aneurysm has clear neck, broad or narrow. 8 cases.

Type II: Aneurysm is dilatation of whole extent of anterior communicating artery to one side. 3 cases.

Type III: The anterior communicating artery dilated in its whole direction and form the aneurysm. 2 cases.

Type IV: The unilateral anterior cerebral artery imbedded in aneurysm. 2 cases.

Type V: The anterior communicating artery defected unilaterally due to congenital abnormality. 1 case.

The intracranial surgery had carried out by various method in each type of aneurysm and I tried to do clipping or trapping rather than coating by using Scoville-Lewis's Spring clip, Olivecrona clip, Pool-Pfeiffer Self locking clip and Weck clip.

Discussion to h-3.

Regional Cerebral Blood Flow Measured in 8 Cases of Intracranial Arteriovenous Malformations

Hajime HANDA, Kouzo YOSHIDA and Yutaka ISHIJIMA

Department of Neurosurgery, Kyoto University School of Medicine

Measurements of regional cerebral blood flow by the use of ^{133}Xe clearance method were performed in 8 patients of intracranial arteriovenous malformations within the carotid system. Other clinical methods now available measure blood flow both through cerebral tissue and arteriovenous shunt and values measured by these methods are usually very large. The true value of blood flow supplying the cerebral tissue underlying the malformation can be measured only by the present method.

Using this method, in the present study, the following results were obtained.

1) The characteristic clearance curve obtained in cases of A-V malformation was found to consist of 2 components, a large peak, followed by a slow falling phase. In cases having small malformations, only a curve obtained from the region overlying the shunt showed the characteristic peak, while in cases with large malformations all the curves obtained from over the hemisphere showed such peaks.

2) The grade of neurological deficit shown by a patient with malformation was well correlated with a value of regional cerebral blood flow rather than an angiographic finding. A patient with such a large malformation as occupying almost whole of the hemisphere but whose neurological signs were minimal showed normal values of regional cerebral blood flow.

3) In one case regional cerebral blood flow measurements were performed pre and post-operatively. Post-operative measurement showed no improvement of regional cerebral blood flow, although the characteristic peak was not observed at all. In such a case, surgery was not considered successful in improving cerebral blood flow.

h-4. Surgery on Anterior Communicating Aneurysm

Tadashi AIBA, Tadao TSUNODA, Hisao YAGI, Norimoto KUMAGAI,
Hideaki NUKII and Junichi KAWAFUCHI
Dept. of Neurosurgery, Gumma University

h-5. Surgery on Intracranial Aneurysm and Arterio-Venous Malformation

Keiji SANO, Minoru JINBO and Isamu SAITO
Dept. of Neurosurgery, Univ. of Tokyo

h-6. Prognosis of Spontaneous Subarachnoid Hemorrhage

Kenichiro EZAWA, Toru SHIMIZU, Reijiro WATANABE, Tsuguo TAKAHASHI,
Makihiko HIRAYAMA and Yasuhiro TSUNASHIMA
1st Department of Internal Medicine, Tokyo Jikei-kai University School of Medicine

The present study was performed to evaluate the natural history and the factors influencing the early prognosis of spontaneous subarachnoid hemorrhage.

The materials consist of 149 spontaneous subarachnoid hemorrhages treated conservatively from the onset. Postmortem examinations were performed in 35 out of 44 deaths, angiographic examination in 59 surviving patients. Only 2 cases out of these 59 died by rebleeding or delayed softening.

1) In autopsy, intracranial aneurysm were discovered in 29 cases, arterio-venous aneurysm in 1, and unknown origin in 5 cases. While in cases performed angiography, aneurysm was discovered in 31 cases, arteriovenous aneurysm in