

angiography. When there are symptoms suggestive of intracranial aneurysm in the territory of the right internal carotid artery, bilateral carotid angiography is carried out. Post-operatively, left vertebral angiography is performed in the former case, while bilateral vertebral angiography in the latter case, to confirm that no intracranial aneurysm exists in the territory of the vertebral artery. If there is a suspected intracranial aneurysm in the vertebral artery system, retrograde brachial angiography is taken simultaneously on both sides, to be followed by left carotid angiography some day in future.

Anesthesia is given under normothermia, and no controlled hypotension is in practice. Neck clipping was done in all of 27 cases of multiple intracranial aneurysms on the same day. The ways to approach to lesions were as follows: frontolateral incision in case of the circumference of an unilateral circle of Willis, coronal incision or bilateral frontolateral incision in case of the bilateral internal carotid arteries or bilateral middle cerebral arteries, and atypical coronal incision in case of the circumference of the circle of Willis and the distal part of the anterior cerebral artery.

In case of acute-phase ruptured intracranial aneurysm, extensive craniotomy is performed, and depending on brain swelling following neck clipping, lobectomy is performed for the purpose of internal decompression, while removal of bone flaps for the purpose of external decompression. And if the patient has a complication of intraventricular bleeding, bilateral ventricular drainages are performed to facilitate decompression positively. It is ideal to make a direct attack on all of the existing multiple aneurysms with one and the same operation. However, if the patient cannot be treated with one and the same approach as he is in the acute phase of ruptured intracranial aneurysm with his pre-operative level of consciousness being in the state of semicomatose or coma, it will be recommendable to clip the ruptured intracranial aneurysm first and, after improvement of his consciousness,

to operate on intracranial aneurysm on the other side. All of 6 cases with the acute phase ruptured intracranial aneurysm suffered premature rupture. When it occurred, two suction tubes were firstly used to control bleeding, secondly either of their tips were applied to the bleeding source to make the operative field dry, and then neck clipping was performed. When clipping was followed by vasospasm (on the operative field), cottonoid with papaverin hydrochloride was applied to the vasospasmodic region in order to facilitate arterial dilation.

Post-operative cerebral angiography and autopsy demonstrated that intracranial aneurysms except carotid-ophthalmic aneurysms had been neck-clipped in all cases without any of the clips being erroneously set over a patent artery to block blood flow of vessels distal to the intracranial aneurysms.

Vasodilators and lower molecular dextran but no hemostatics were used after operation in an attempt to improve cerebral circulation. If angiographic findings suggest an enlarged ventricle in a patient with neurological disturbances such as mental retardation after operation, ventriculoabdominal shunt was performed as soon as possible. Ventriculoabdominal shunt was necessary in all cases of acute multiple intracranial aneurysms.

Operative results in multiple intracranial aneurysms were as follows: in cases of grade I and II (Botterell), no mortality was recorded. In cases of grade III, IV and V, 1, 2 and 1 cases were lost respectively. Four cases of death were all subjected to autopsy, which showed that the causes of death were skull base hematoma, intraventricular hematoma and G-I tract bleeding.

As for operative results in the 6 cases of the acute phase, 1 had hemiparesis, 2 had mental retardation, and 2 died. Since the operative field is extremely narrow in case of operation on ruptured intracranial aneurysm in the acute phase, it seems that the clipping of the neck of aneurysm cannot be achieved without microsurgical technique.



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お知らせ

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