



Fig. 1. Case T.A. 48 ys ♂ Cerebral Arteriovenous Aneurysm

108. Follow-up Study of Subtotal Carotid Ligation for Cerebral Aneurysms

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Since 1960 subtotal ligation of the common carotid artery has been performed on 25 patients with intracranial aneurysm to reduce the chance of recurrent rupture. Location of aneurysms are: internal carotid-posterior communicating artery 12 cases (Group I), middle cerebral artery 5 cases (Group II), and anterior cerebral-anterior communicating artery (Group III) 8 cases. Two cases died shortly after ligation, one with aneurysm in Group II, and the other in Group III. None of Group I died. No late death occurred in 5 months to 6 year follow-up. All of

them returned to their old activity. There are 5 patients who still complain oculomotor palsy of various degree, but no other neurological deficit is noted.

Silk suture was used for subtotal ligation in which the common carotid artery was tied to reach less than half of the original diameter and to reach systolic blood pressure of 70 mmHg or below in the distal part of the ligature unless hypertension is severe. Intermittent follow-up of the carotid pressure revealed mild elevation of the pressure with the lapse of time. However, this simple safe procedure can protect the patients from further recurrent bleeding to a considerable degree, because the danger of rebleeding becomes much less after 8 weeks and the surgical risk of the procedure is negligible.

109. Experimental Studies on Electrically Induced Arterial Thrombosis in Dogs, with Special Reference to the Treatment of Intracranial Aneurysms and Angiomas

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Successful surgical treatment of an intracranial aneurysm consists in resection of the aneurysm and ligation or clipping of its neck. However, difficulty in clipping is often encountered in the treatment of intracranial aneurysms which are firmly adherent to the surrounding brain tissues because of the danger involved in exposing the lesions entirely. In such cases, reinforcement with our "EDH-adhesive" has been applied with success, but this reinforcement is sometimes imperfect, usually due to the shape and size or adherence of the aneurysm. Because of these limitations, a method of obliterating the lumen of an aneurysm by electrically induced thrombosis was designed. It has been used alone or in combination with "EDH-adhesive".

Various methods have been tried to obliterate the lumen of an intracranial aneurysm since the early report of Dandy's hanging of double silk threads in the aneurysm cavity. Our new method is designed for selected craniotomized cases which are considered to be not treatable directly by any other established methods after exploration of the nature of the aneurysm and its relation to the surrounding tissues. In the treatment of intracranial angiomas, total extirpation can easily be done with electrical hemostasis by using this new method.

Since the first report of this new method, we have used it in four clinical cases. Meanwhile, we have continued experimental studies to improve this new