RECURRENT EPISTAXIS FROM ANEURYSM OF THE INTERNAL CAROTID ARTERY

CASE REPORT WITH CURE BY OPERATION*

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It has long been known that an aneurysm of the cavernous portion of the internal carotid artery could erode the wall of the sphenoid sinus and leak or rupture into that cavity with resultant recurrent and more or less severe epistaxis. Seftel et al.7 in 1959 reported a case of such an aneurysm with death from fatal epistaxis. They stated that 10 such cases of epistaxis had been reported. This figure is probably far too low. For example, these authors did not mention Jefferson's8 article (1938) on saccular aneurysms of the internal carotid artery in the cavernous sinus. In his report of 17 aneurysms in this location he stated that 3 of his patients had repeated epistaxis, 2 severe and 1 mild. An early reference is to the case of Nettleship reported by Beadles9 in 1907 in his classic study of 553 cases of intracranial aneurysms. This patient, a 61-year-old woman, had recurrent nasal hemorrhages over a period of 2½ years, eventually succumbing.

Cure frequently has been achieved by carotid ligation and indeed it was planned to tie the carotid artery in Nettleship's case on the day of the patient's death. The relationship of trauma to these aneurysms is striking, as the cases of Birley and Trotter,2 Garcia Bengoechea et al.,4 Fabian,3 Kinley and Leighninger,6 and Seftel et al.7 demonstrate.

CASE REPORT

P.Y., a 36-year-old white man, was admitted to the Hines Veterans Administration Hospital on May 4, 1957. In December 1926, he had suffered a severe head injury with multiple fractures of the right frontal bone, the sphenoid ridge and the orbital plate, and had been unconscious for several days. Since regaining consciousness he had been blind in the right eye. About 6 weeks after the injury, he began to have frequent headaches, pain in the right orbit, and recurrent epistaxis. On several occasions transfusions had been necessary and the patient estimated that he had lost a total of six pints of blood. Ligation of the right external carotid artery and of the right ethmoidal arteries had been performed elsewhere but the headaches and recurrent nasal hemorrhage persisted.

Examination: Abnormal physical findings were a draining sinus in the right medial infra-orbital area, crusted and dried blood in the right side of the nose and a recent surgical scar in the right side of the neck. There was early optic atrophy on the right with loss of light perception. There was no direct reflex in the right pupil and no consensual reflex on the left. Vision was 20/20 on the left. The direct light reflex was present on the left with a good consensual reflex on the right. There was impairment of cutaneous sensation in the right maxillary distribution.

Roentgenograms of the skull showed fracture lines in the right frontal bone extending into the base and involving the sphenoid ridge and orbital plate. The sella turcica was enlarged and there was marked irregularity of the anterior clinoid processes.

Course. There was a severe nasal hemorrhage the day after admission with an estimated loss of 350 cc. of blood. Two days later right percutaneous carotid angiography revealed a large aneurysm of the cavernous portion of the right internal carotid artery. The nasal hemorrhages persisted and on several occasions were severe, requiring transfusion. A percutaneous left carotid angiogram revealed filling of both anterior cerebral arteries, the right middle cerebral artery and some filling of the aneurysm.

Because of the retrograde filling of the aneurysm, it was decided to trap it by ligation in the neck and an intracranial clip.

Operation was carried out in one stage on June 12, 1957. With the patient under hypothermia the previous operative incision in the neck was reopened. The external carotid artery was found to be ligated satisfactorily. The remaining carotid was ligated doubly with umbilical tape, with one ligature proximal to the bifurcation and one distal to it. The cervical incision was then closed and a right transfrontal craniotomy was carried out. The region of the optic chiasma and the anterior part of the circle of Willis was exposed by elevation of the frontal lobe, and the internal carotid artery on the right was occluded doubly, proximal to its bifurcation, by two Olivecrona clips.

Course. The patient made a satisfactory recovery without further epistaxis. One year later, on June 10, 1958, in answer to a letter, he stated that he had had no further epistaxis.

DISCUSSION

It has been known for over 50 years that aneurysms of the cavernous portion of the internal carotid artery could produce recurrent se-
vere and even fatal epistaxis. This is a rare but important cause of severe epistaxis. Prior to the development of angiography there was no way of recognizing these lesions with certainty. When recognized they can be treated surgically with a very satisfactory degree of success. It follows that carotid angiography is an important diagnostic procedure in cases of severe recurrent epistaxis without apparent cause. Trauma appears to be an important etiologic factor in the production of these aneurysms so that in a case of recurrent epistaxis, a history of antecedent head injury should increase the probability of this condition.

REFERENCES