

INTRACRANIAL ANEURYSM : A CAUSE OF SUBARACHNOID HAEMORRHAGE IN CHILDHOOD

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SUMMARY

Aneurysmal dilatation of the cerebral vessels are rarely seen in childhood. In this paper we present a cerebral aneurysm caused by subarachnoid haemorrhage in a 9 year old boy. The rarity and the treatment of this pathology is discussed.

Key Words : Cerebral aneurysm, subarachnoid haemorrhage.

INTRODUCTION

Aneurysms are rarely seen in childhood. Aneurysmal dilatation of cerebral vessels in childhood are rarely detected in autopsy series (1,2,3). In reported series, the ratio of childhood cerebral aneurysms are between 1,3 and 4,1 %. (4,5,6). It is quite rare under the age of ten. There are a few case reports in newborns and infants (7,8,9).

The aim of this paper is to present a cerebral aneurysm caused by subarachnoid haemorrhage in a nine year old boy and to discuss the rarity and the treatment of this pathology.

CASE REPORT

A 9 year old boy was admitted to a local hospital with the history of severe headache, nausea and vomiting which had begun while he was playing. He was referred to our hospital after a subarachnoid haemorrhage had been diagnosed by CT scan in that hospital.

In his physical examination, the system findings were normal. In the neurological examination the patient was conscious, cooperated, oriented but irritable. There was not any pathological finding in the neurological examination except neck stiffness. His routine laboratory findings, skull and chest x-rays were normal. The CT scan revealed blood in all intracranial subarachnoid cisterns, especially in the left carotid cistern and a small amount of blood in the 4th ventricle. He had a bloody CSF with very high pressure after the lumbar puncture. The centrifuged CSF was still xantho chromic. Four vessel an

giography by femoral route revealed vasospasm in the supraclinoid portion of the left internal carotid artery and there was a saccular aneurysm directed posteriorly at the bifurcation of the left internal carotid artery.

The operation was performed by left pterional approach as described by Yaşargil (21). The brain tissue in the subfrontal region was yellowish in appearance due to the hemosiderin accumulation after the bleeding. The left Sylvian fissure was opened and the bifurcation of the left internal carotid artery, left middle cerebral artery and the proximal portion of the left anterior cerebral artery were disclosed. The dome of the aneurysm which has been directed posteriorly was seen after the dissection with microsurgical aids. The neck of the aneurysm was clipped by a straight Yaşargil aneurysm clip (FE 740 K Aesculap).

The patient was discharged on the tenth postoperative day with complete recovery. The neurological examination was completely normal at the follow-up, 6 months later.

DISCUSSION

The occurrence of aneurysms in childhood (under 20) is quite rare. According to different series, only 1,3 to 4,1 % of the aneurysms are seen in this age group.

This pathology is extremely rare under the age of ten (4,5,6). Suzuki's series (10) do not harbour any patient under the age of ten. There were only four patients under 10 among 1012 operated aneurysm patients of Yaşargil (6). This patient was the youngest case operated on in our clinic.

In most of the patients, the classical triad of subarachnoid haemorrhage (neck stiffness, headache and vomiting) is present. It is reported that neurological findings, especially third nerve paralysis, are common in childhood subarachnoid haemorrhages due to aneurysmal rupture (4,11).

Third nerve paralysis or brain stem compression was found in 34,5 % of the 32 cases reported by Amacher



Fig. 1 : Computerized tomography of the patient revealed haemorrhage filling the basal cisterns. An enhanced area on left carotid artery is also detected.

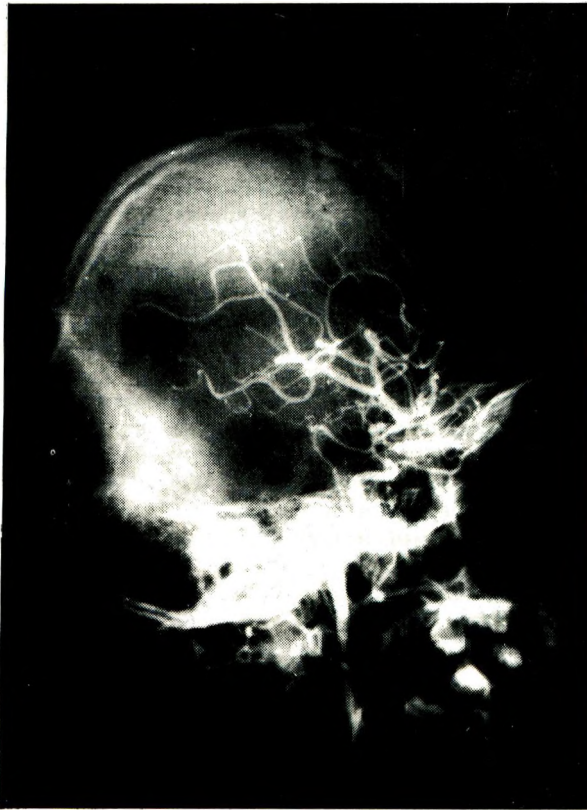
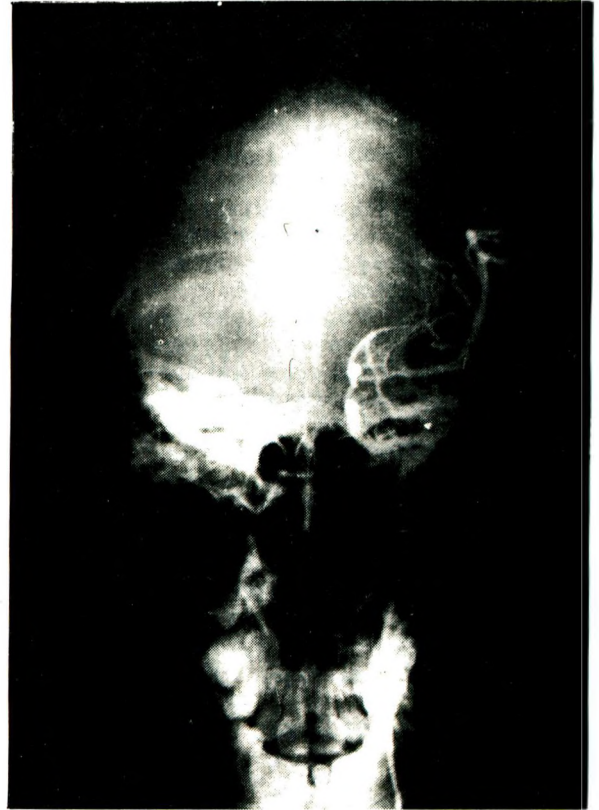


Fig. 2 a: On lateral projection of left carotid angiography revealed a localized spasm of supraclinoid portion of carotid artery and a saccular aneurysm.



b: Town projection of left carotid angiography revealed a saccular aneurysm on the bifurcation of carotid artery. Spasm of the carotid artery and non filling of A1 are seen.

and Drake (11). Contrary to these reports, in our case the only neurological finding was neck stiffness.

The circle of Willis is the most common location site of the childhood aneurysm. 20 % of them occur at the bifurcation of the carotid artery. (6,12,13,14) In our case, the aneurysm was located at this site.

It is known that the intracranial aneurysms in childhood may be associated with some congenital malformations such as the coarctation of aorta and the polycystic kidney (15). Septic emboli and trauma play important role in the pathogenesis of the childhood aneurysm (16,17,18). These etiologic factors are excluded in our case.

The management is to clip the aneurysm surgically. According to the Hunt and Hess scheme (19), early angiography and surgery are mandatory for grade 0-2 patients. Today, with the aid of microsurgical methods, the mortality rate of the surgical intervention of these cases varies from 0 to 10 % (6,11,20).

Although the rarity, intracranial aneurysms must be kept in mind as a cause of subarachnoid haemorrhage in childhood. Good prognostic results can be obtained with early diagnosis and appropriate surgical intervention.

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