Intraventricular Cavernous Hemangioma of the Lateral Ventricle

Case Report

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Intraventricular cavernous hemangioma is a rare lesion. Dandy\(^1\) reported his series of 5 cases of cavernous angiomas of the brain and reviewed 44 cases in the literature. In none of these cases was the lesion located inside the lateral ventricles. Dandy\(^1\) later reported 18 benign encapsulated tumours of the lateral ventricles, none of which was a cavernous hemangioma. Schneider and Liss\(^2\) presented 3 cases of well encapsulated cavernous hemangioma of the brain but in only 1 of these cases was the tumor located inside the right lateral ventricle. The rarity of this condition and some unusual features of this case have prompted this report.

Case Report

C.P., a 15-year-old Italian boy, was first seen on May 17th, 1965, with a complaint of headaches for the last one and a half months. There was no definite episode at the onset of these headaches. They were throbbing in character and usually started in the left temporal region and radiated to the occiput. Recently the headaches had become more generalized. The boy was born in Italy and at the age of 6 years had an episode of headache which subsided spontaneously. No investigations were done at that time. There was no evidence that he had suffered from tuberculosis, syphilis, toxoplasmosis or hydatid disease. After the age of 6 years he emigrated to Canada and had no illness until the present episode of headaches.

Examination. The patient was well built and well nourished, conscious and well oriented. There was no deficit of higher cerebral functions. Fundoscopic examination revealed bilateral early papilledema. The rest of the neurological examination was normal.

Radiology. Plain x-rays of the skull revealed an area of ringlike calcification in the left parietal region (Fig. 1). An electroencephalogram indicated paroxysmal disorder of deep midline origin with right sided voltage preponderance. Bilateral carotid angiography (Fig. 2) showed shift of the anterior cerebral artery from right to left. There were no abnormal vessels in the region of calcification in the left parietal region. There was no tumor stain in the right hemisphere. Pneumoencephalography (Fig. 3) showed a large intraventricular mass in the anterior portion of the right lateral ventricle. There was slight enlargement of the ventricular system with shift of the septum pellucidum from right to left. Cerebrospinal fluid had a protein content of 64 mg. per cent with 7,000 red blood cells per c. mm. Glucose was 54 mg. per cent and chloride 69 mg. per cent. Examination of cerebrospinal fluid for tumor cells was negative. Various tests for tuberculosis, syphilis and hydatid disease were negative.

Operation. On May 20, 1965, a right frontal craniotomy was done and through an incision in the right premotor area an encapsulated cystic mass in the right

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Fig. 1. (a) and (b). X-rays of skull showing ring-like calcification in the left parietal region.

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lateral ventricle was removed. There was reddish discoloration of the ependymal lining of the ventricle indicating recent hemorrhage. The mass measured approximately 5 cm. in diameter. The complete mass was aspirated and semi-solid blood clot was obtained. A draining vein was identified connecting this mass to the thalamostriate vein; this was divided between clips. No large artery was seen entering the mass. No infiltration of or attachment to the walls of the lateral ventricle was detected. Bleeding was insignificant. Inspection of the dilated anterior horn of the right lateral ventricle did not reveal any abnormal vessels. The choroid plexus was visualized and appeared to have been compressed by the intraventricular mass.

Pathology. The specimen appeared to be encapsulated and cystic. On sectioning it was found to be filled with dark semi-solid material which appeared to be a blood clot.

Fig. 2. Bilateral carotid angiograms showing shift of the anterior cerebral artery from right to left.

Fig. 3 (a) and (b). Pneumoencephalogram showing a circumscribed mass (outlined by arrows) in the anterior portion of right lateral ventricle.
Microscopic examination (Fig. 4) revealed numerous vascular channels many of them containing red blood cells. The walls of these channels were composed of collagen and lined by a single layer of endothelial cells. Surrounding stroma showed fibroblastic proliferation with scattered non-specific inflammatory cells and extravasated blood. Reticulum fibers were demonstrated in the stroma by Wilder's reticulum stain. On the basis of gross and microscopic examination the lesion was diagnosed as a cavernous hemangioma.

Postoperative course was unremarkable except for persistent vomiting for 1 week which was controlled by anti-emetic drugs. Headaches and papilledema disappeared. The patient was discharged from the hospital on June 1, 1965. No abnormality was detected on neurological examination at that time. The patient was free of symptoms at the time of the last follow-up report on November 15, 1965.

Discussion

This case report has several interesting aspects. Intracranial calcification was discovered on plain x-rays of the skull in the left parietal region, suggesting a lesion in that region. There was evidence of recent intraventricular hemorrhage in the form of red blood cells and increased protein in the cerebrospinal fluid. It is also likely that there had been an episode of subarachnoid hemorrhage at the age of 6 years which would explain the episode of headache. The calcified lesion in the left parietal region was not verified histologically as there was no indication for operative interference in that area. It may represent another subcortical hemangioma which has calcified.

Summary

We have presented a case of benign intraventricular cavernous hemangioma of the right lateral ventricle, removed completely and verified histologically.

References