Angiographic Appearance of a Papilloma of the Choroid Plexus of the Lateral Ventricle

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Cerebral angiography is considered by many to be the diagnostic contrast study of choice in the evaluation of suspected supratentorial mass lesions. It has been demonstrated that the very young patient can be studied effectively and safely. Generally, carotid angiography is used by these authors when lateralizing signs are present, regardless of age.

Recently we have had the opportunity to study by carotid angiography a young patient in whom a hemiparesis developed 1 week following a blow to the head. As the result of the carotid angiograms, a preoperative diagnosis of a papilloma of the choroid plexus of the left lateral ventricle was made by the authors and surgical therapy was instituted, resulting in the total removal of the tumor.

Since the diagnosis and treatment of the tumor in this patient was made, Sears and Burnett have published their paper on the angiographic appearance of a papilloma of the choroid plexus. As was stated by them, the angiographic diagnosis of the papilloma of the choroid plexus in their patient could have been made preoperatively.

It is felt that our case represents the first published report of a papilloma of the choroid plexus diagnosed preoperatively from the carotid angiogram.

Case Report

A 25-month-old white male was admitted to Walter Reed General Hospital on Oct. 22, 1961, with a history of having fallen and struck his head 2 weeks previously. There were no immediate sequelae. One week later he began to drag his right foot. On the day of admission he was noted to have weakness of the right arm and facial weakness. He also then stopped saying the few words he knew. The past history and developmental history were normal except that his parents had noted that his head was slightly large but felt it to be normal since the father’s head also was slightly enlarged.

Examination. On admission he was described as a normal-appearing infant male with a slightly enlarged head and a right hemiparesis. The remainder of the physical findings were normal.

Roentgenograms of the skull showed the cranial vault to be enlarged in length and breadth with pronounced spreading of the sagittal and coronal sutures and slight spreading of the lambdoid sutures. No intracranial calcifications were noted. The electroencephalogram revealed an abnormal slow-wave pattern in the left temporoparieto-occipital area interpreted as indicative of left-sided brain damage.

A percutaneous left carotid angiogram was performed on Oct. 26, 1961. This showed evidence of a tumor stain with an associated cyst in the left trigonal area. A diagnosis of papilloma of the choroid plexus, with an adjacent cyst laterally, was made by the Neurosurgical Service.

Operation. On Oct. 27, 1961, a left posterior temporo-parietal craniotomy was performed. Through a transcortical incision a cyst was entered which contained approximately 150 cc. of xanthochromic fluid, as well as evidence of relatively fresh hemorrhage. The protein contained in the cystic fluid was 4 gm. per cent. The cyst, which was lateral to the ventricular system, was emptied and its wall was biopsied. Direct medial to the posterior extent of the cyst was seen the tumor which occupied the area of the trigone of the left lateral ventricle arising from the choroid plexus. The anterior choroid artery entering the tumor posterolaterally was clipped and divided. A circumferential dissection then was performed about the encapsulated tumor, 4×3×2.5 cm. in size, which was removed intact (Fig. 1). The left lateral ventricle was not enlarged except at the trigonal area.

Postoperative Course. The patient awakened immediately and was tolerating oral fluids 3 hours later. Eight hours after operation he had a right-sided seizure fol-

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followed by a series of generalized seizures requiring intravenous anticonvulsants and a tracheostomy. For 5 weeks he continued to have a stormy course manifested by respiratory difficulties, unexplained elevations of temperature and an apparent cortical blindness. He then began to improve rapidly, and became alert, oriented and ambulatory. He was discharged on the 50th hospital day. At that time the only abnormal finding was a right homonymous hemianopsia.

One month later he was again speaking the few words he knew prior to his injury and showed no evidence of the hemianopsia. Postoperative roentgenograms of the skull showed a normal cranial vault except for the outline of the craniotomy bone flap.

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**Fig. 3.** (left). Left carotid angiogram, arterial phase, lateral projection. Note contribution of anterior and posterior choroid arteries.

**Fig. 4 (right).** Diagram of Fig. 3. Abbreviations in Figs. 4 and 8:

- A.C. Anterior cerebral artery
- B.V. Basal vein of Rosenthal
- d.v. A deep vein
- I.C. Internal carotid artery
- I.C.V. Internal cerebral vein
- M.C. Middle cerebral artery
- P.C. Posterior cerebral artery
- P.Chor. Posterior choroid artery
- S.S. Straight sinus
- S.V. Septal vein
- V.A. Venous angle