BENIGN ARACHNOID CYSTS OF THE POSTERIOR FOSSA

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Benign, monolocular cysts of the arachnoid in the posterior fossa are apparently quite rare. Sporadic reports of isolated cases of this type of lesion have appeared in the literature frequently under titles suggesting that their origin is due to inflammation.

The first clear description of such a lesion was found in a report by Craig,2 in 1932, under the name of "chronic cystic arachnoiditis." In his Case I he described a cystic abnormality found in the midline of the posterior fossa, overlying the cerebellum and 4th ventricle. This case, however, was presented with 2 others, all of which were discussed as individual examples of a distinct, clinical entity. In one, a multilocular cyst, with fibrous and adhesive changes, was found in the posterior fossa of a 9-year-old child, following a prolonged, severe, pulmonary infection, complicated by signs of meningeal irritation. The other patient had a noncystic, posterior fossa arachnoiditis. The absence of cyst formation in one and the multilocular nature of the cyst in the other, especially with the evidence of acute inflammation, led us to consider the latter lesions dissimilar to the subject of this report.

Reference was made by Bucy1 in 1946 to a similar cystic lesion in which a small tuft of choroid plexus was found attached to the cyst wall. This eftopic choroid plexus was held to be responsible for the fluid within the cyst, which, in compressing the vermis and the 4th ventricle, produced symptoms of intracranial hypertension.

A similar lesion was described in 1946 by Thompson,7 who employed the term "cystic cerebellar arachnoiditis." In spite of this nomenclature, which implies an inflammatory origin, the etiology of the lesion was attributed to trauma sustained by the patient in a parachute jump.

In 1948 Kaplan4 briefly reviewed the reports of Craig2 and Thompson7 and presented 2 similar cases of his own.

Much confusion exists in regard to the etiology of these lesions. In addition to the suggested role of trauma,7 it has been implied that they are secondary to inflammation2 and, also, that they are developmental anomalies.4

Review of the literature has failed to reveal reports of similar cases other than the 5 mentioned above. The rarity of this lesion, and the divergent opinion regarding its etiology, prompted the present report.

CASE REPORT

L.B.V.A.H., R#16935.

First Admission. J.H.B., a 25-year-old white male, was seen first in the out-patient department, in April 1950, with a primary complaint of headache. Approximately 1 month prior to admission, he had had a dental extraction under general anesthesia, following which severe, intermittent headaches developed. These were chiefly occipital in location, and on occasions were associated with mild dizziness and "numbness" of the entire left side of the body. The headaches would appear suddenly, but would ordinarily subside spontaneously after 5 to 30 minutes. At times they would be accompanied by nausea, and on rare occasions had been terminated by vomiting.

398
The paresthesias of the left side of the body were described as "like pins-and-needles."
These appeared first in the foot and progressed slowly upward in a typical "sensory march" to involve the remainder of the left side of the body.

Past History. Approximately 3 years previously the patient had been "thrown about 15 feet" by the detonation of a torpedo striking the ship on which he was serving in the Navy. He remembered striking his head and injuring his neck, but he was not rendered unconscious.

Examination. The only neurologic abnormalities found were slight nystagmus on extreme lateral gaze in either direction and a "fullness" of the optic discs bilaterally.

Laboratory Tests. Lumbar puncture: the spinal fluid was under a pressure of 270 mm. of fluid; CSF cell count and chemistries were normal. An EEG on two occasions revealed non-focal (S-2) wave patterns.

Course. The symptoms subsided and the spinal fluid pressure fell to 160 mm. The patient was discharged, to be followed as a brain tumor suspect.

Second Admission. Three months later the patient returned, complaining that the headaches had become more frequent, more severe, and more persistent. Although their location remained predominantly suboccipital, on many occasions they had become generalized. Approximately 10 days prior to this admission, he had suffered an attack of severe nausea with vomiting. This was associated with a pronounced headache. Subsequently similar episodes had occurred, but he felt that they were becoming less severe. In the last few days there had been several episodes in which the patient described transient, complete loss of vision. These attacks lasted about 15 seconds and were preceded by a short period in which "everything turned gray." The previously described "tingling" sensations had continued to appear with the headaches, but had remained limited to the left side of the body.

For the last several weeks he had noted considerable "awkwardness" in movement of the extremities and in walking. This also occurred in episodes, sometimes involving only the legs, and sometimes the left leg and left arm only. There had been occasional "complete paralysis" of the right foot. These attacks, like all others, were transient.

Examination. The patient stood with the neck quite rigid and with the head tilted forward and to the left. Cerebration was slow but accurate. He was well-oriented in all spheres, and quite cooperative.

The right pupil was slightly larger than the left, but both pupils reacted briskly to light. There was bilateral papilledema of 2 D., with several small hemorrhages about the periphery of the discs. No field defects could be demonstrated. On looking to the left, there was fine nystagmus to the left; and on looking upward, there was fine vertical nystagmus, which, at times, appeared to move obliquely toward the left. The lower right facial muscles appeared to be somewhat weak. The remainder of the cranial nerves were intact.

There was a little unsteadiness in his movements, but at no time did he lose his balance. Some ataxia was present on heel-to-knee test bilaterally. There was mild ataxia on walking. His stance was wide, and the gait was somewhat staggering; but there was no tendency to fall to one side. There was no adiadochokinesis. No sensory abnormalities were found. Tendon reflexes were hypoactive throughout, with the exception of the ankle jerks, which appeared to be normal. All tendon reflexes were bilaterally symmetrical. Abdominal reflexes were active in all quadrants. No pathological reflexes could be elicited.

Skull films revealed minimal decalcification of the clinoids, but no other abnormalities were noted. Ventriculography disclosed symmetrically dilated lateral ventricles, and dilatation of the 3rd ventricle (Fig. 1).

Operation. Suboccipital craniectomy was performed through a vertical incision, the arch of the atlas being removed with the posterior part of the occipital plate. On opening the dura, a translucent, bluish, slightly fibrous cyst was seen lying exactly in the midline (Fig. 2). Below it could be seen the arachnoid of the medulla. The cyst, measuring approximately 2×3 cm., was opened, revealing the tonsils of the cerebellum to be pushed laterally on both sides. The base of the cyst extended inferiorly to the obex, its main bulk lying over the roof of the 4th ventricle. The walls were white, glistening and translucent, and through them could be seen the choroid plexus. Careful search was made for mural nodules in the wall of the cyst,