
UNILATERAL EXOPHTHALMOS DUE TO CEREBELLAR TUMOR AND ORBITAL DEFECT

W. James Gardner, M.D.
*Cleveland Clinic, Cleveland, Ohio*

(Received for publication January 19, 1948)

A young woman of 26 was admitted to the Cleveland Clinic Hospital on April 25, 1945, because of blindness and protrusion of the left eyeball. She had been subject to generalized headaches for 18 months. Thirteen months prior to entry she had been in an automobile accident and had sustained a fracture of the left arm, ecchymosis about the left eye, and was unconscious for about a day. Exophthalmos of the left eye had first been noticed 10 months prior to entry. Generalized headaches had continued with loss of vision progressing to complete blindness 6 weeks prior to entry. Projectile vomiting and mental confusion had recently developed.

Examination. The patient was dull, apathetic, and mildly confused. She was totally blind in both eyes. The pupils were dilated and fixed, and there was advanced bilateral papilledema, and a severe degree of exophthalmos in the left eye. The exophthalmometer reading in the right eye was 20 mm. and in the left eye 28 mm. Extraocular movements were full. There were no cranial nerve palsies and no other positive neurologic findings. There was no nystagmus and no more uncertainty in walking than in a totally blind, partially bedridden patient.

Roentgenograms of the skull showed evidence of increased intracranial pressure, as indicated by thinning of the anterior and posterior clinoid processes and convolutional markings in the frontal area. The left orbit appeared denser than the right, although it was thought that this appearance could be due to the increased volume of the soft tissue content. Roentgenograms of the nasal sinuses were negative. Examination of the ears, nose, and throat disclosed no abnormality. The urinalysis and blood count were normal, and the blood Wassermann reaction was negative.

A diagnosis of meningioma of the sphenoid ridge with invasion of the orbit was made.

1st Operation. On April 30, 1945, a left frontal craniotomy was performed under pentothal anesthesia. The tension of the dura was increased. A brain cannula was introduced into the anterior horn of the left ventricle, which was found to be dilated, and about 60 cc. of clear colorless ventricular fluid escaped. The dura was incised, and the frontal lobe was elevated. No tumor was found on the sphenoid ridge. The inferior surface of the frontal lobe was firmly adherent to the dura over an area just lateral to the cribiform plate. The dura was elevated from the roof of the orbit until this area of adhesion was discarded, and an outpouching of the dura into the orbit through a smooth round dehiscence of about the size of a five-cent piece was seen. This bony opening was enlarged by removing the surrounding portion of the roof of the orbit. A semicystic encapsulated mass was found in the upper inner portion of the orbit. The membrane, which was continuous with the dura and which surrounded the cystic mass,
was dissected from the periorbital fascia. When this mass was entirely freed, the dura about the neck of the mass was divided and the contents were found to be brain tissue, semicystic in character. This mass was obviously an encephalocele. During the course of the dissection an outpouching from the inferior portion of the anterior horn of the ventricle was entered. The operator decided at this point that the lesion was probably a traumatic encephalocele extending into the orbit and that the lesion responsible for the hydrocephalus was perhaps a posterior fossa tumor or a traumatic stricture of the aqueduct of Sylvius.

Course. Following this procedure the patient was more alert mentally, but the left eye began again to protrude as the intracranial fluid reaccumulated. This fluid was aspirated by means of a needle introduced through the scalp, but it gradually increased in amount until by the 9th postoperative day it measured 80 cc. When the fluid was aspirated the eyeball receded to approximately its normal position (Figs. 1 and 2). By the 16th postoperative day the amount of fluid recoverable measured over 150 cc. at each aspiration.

On the 17th postoperative day a ventriculogram was performed, demonstrating an obstructive hydrocephalus with dilatation of the 3rd ventricle and no visualization of the aqueduct or of the 4th ventricle.

2nd Operation. Immediately following the ventriculogram a suboccipital craniotomy was performed, and a large cerebellar cyst was found in the medial portion of the right cerebellar lobe. An incision was made into the cyst, and a small red nubbin of hemangiomatous tissue about 1 cm. in diameter was disclosed on the posterior wall. This lesion was excised with the overlying area of cerebellar cortex, and the wound was closed.

Course. Following this procedure the intracranial pressure was relieved. The accumulation of fluid beneath the scalp decreased each day. Convalescence was satisfactory, and the patient was discharged from the hospital on the 17th postoperative day. There was no return of vision.

The patient was last seen on Jan. 29, 1946, 8 months after operation. She was totally blind, due to secondary optic atrophy. The left eyeball was still more prominent than the right. The exophthalmometer readings were 20 mm. in the right eye and 23 mm. in the left eye. No