INTRAPONTINE CYST VERIFIED BY SURGICAL DRAINAGE INTO THE FOURTH VENTRICLE

REPORT OF A CASE WITH AN UNUSUAL NEUROLOGICAL SYNDROME

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"The slowly growing, relatively infrequent tumors of this region produce a kaleidoscopic wealth of signs which are myriad combinations of nuclear paralyses and projection-tract disturbances, a neurologic delight for diagnosis and neurosurgical despair for therapeusis."3

The following case is reported because of the unusual clinical course and the correlation of the site of pathology with the neurologic abnormalities.

Our interpretation of our findings questions concepts as to topographical localization in the pons of the pyramidal system and also the vulnerability of the reticular formation.

We found no similar case in the literature.

CASE REPORT

M.C., a male aged 41, was admitted to the service of Dr. Silverstein on July 15, 1956, complaining of blurring of vision, diplopia, and falling to the left.

Six weeks before, while under treatment for an infection of the leg, his blood pressure was 208/110. Four weeks before admission he had a minor automobile accident. His head was not injured, but 1 week later he complained of severe frontal and occipital headache, impaired vision, diplopia, and weakness of left leg. Staggering gait developed and persisted to time of admission.

Examination. Blood pressure was 150/80. Positive neurological findings were: Left pupil larger than right, bilateral horizontal nystagmus, paresis of left lateral and superior rectus, Babinski and Gonda signs on the left, and impairment of skilful movements and dysmetria on finger-to-nose test on the left. The patient fell to the left.

Blood survey, including Wassermann test, gave normal findings. Spinal puncture revealed a pressure of 260 mm.; the fluid was clear and contained 35 mg. per cent protein and no cells; Wassermann and colloidal gold curve were negative.

Roentgenograms of the skull and electroencephalogram were normal.

Air encephalography on July 25, 1956 disclosed moderate dilatation of the right lateral ventricle. The left lateral ventricle was normal. The 3rd ventricle was not visualized. There was a localized air-fluid collection in the upright position that may have represented enlargement of the cisterna magna. There was considerable subdural air over both cerebral hemispheres. The basal cisterns was poorly visualized. The air study was not diagnostic.

Course. Edema of optic discs developed and there was loss of left conjugate gaze. He insisted on leaving and was discharged on Aug. 11, 1956 as having a brain tumor or possibly multiple sclerosis.

2nd Admission. On Aug. 28, 1956, 2 months after onset, he returned with impaired vision and ocular pain. He had no headache, vertigo, or tinnitus, and was alert.

Blood pressure was 176/112. Pulse and respiratory rates were normal. Gait was unsteady on a wide base. There was bilateral peri-orbital ecchymosis with conjunctival hemorrhages, possibly secondary to a fall because of ataxia. Corneal sensation was normal. There was
bilateral nystagmus on attempted lateral gaze with impairment of conjugate movements of both eyes to either side and upwards. There was bilateral choked disc with hemorrhages. Visual fields were normal. There were signs of left cerebellar involvement. A blood dyscrasia was ruled out by appropriate tests.

Spinal puncture: pressure 160 mm. water; fluid colorless; protein 38 mg. per cent; no cells.

On Aug. 30, 1956, the patient fell out of bed. He was not unconscious and clinical findings were unchanged. Spinal puncture: pressure 150 mm.; protein 35 mg. per cent; 1 white and 160 red blood cells.

On Sept. 17, 1956, 3 months after onset, the ocular muscle weakness was unchanged. The edema of the discs had almost cleared and the hemorrhages had absorbed. The left cerebellar signs were still present. The patient insisted on discharge.

![Diagram of intrapontine cyst](image)

**Fig. 1.** Authors' conception of size and position of cyst. The blockage in the 4th ventricle by apposition of the roof of the cyst against the cerebellum was relieved intermittently when the pressure cephalad was enough to push these structures apart. The dilated cisterna magna was the result of a second block caused by obstruction of the cisterna pontis by the distended pons.

*3rd Admission, Oct. 15, 1956, 4 months after onset.* On this day, he strained after an enema, complained of dizziness and became unconscious. He was admitted in a coma. Blood pressure was 210/110, pulse rate 60, and respiratory rate 16. The pupils were dilated and fixed to light. The eyeballs were in normal position. There were hemorrhages in the vitreous of both eyes and choked disc. There was a flaccid quadriplegia and there was no response to painful stimuli. Spinal fluid was clear with a pressure of over 500 mm. of water.

An emergency ventricular decompression was done and ventricular drainage through a catheter cannula was maintained at a pressure of 150 mm. above the level of the head. He immediately became more responsive. The next day, his pupils reacted to light and he could close his eyes. The extremities were still paralyzed.

*Operation.* A suboccipital craniectomy was done after 48 hours of ventricular decompression. The right cerebellar tonsil was herniated ½ cm. below the foramen magnum. The cisterna magna was markedly distended with clear fluid. The tonsils were elevated and the 4th ventricle was visualized. The acoustic striae could be seen in the floor of the widened ventricle. However, in the upper half an elevated mass was seen continuous with the floor of the ventricle. A bluish apex suggested tissue thinned by an underlying accumulation (Fig. 1).