BENIGN CYSTS OF THE BRAIN SIMULATING BRAIN TUMOR

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In general the term "benign cyst of the brain" would be regarded as indicating a porencephalic or arachnoidal cyst. Although there is no complete agreement as to the definition of these terms or as to the etiology of these conditions, it is generally believed that the term "porencephalic cyst" refers to a congenital condition in which a cystic cavity is created by a defect in the brain. Such cysts usually communicate either with the ventricular system or with the intracranial subarachnoid spaces. Occasionally a cystic cavity is seen that is separated from the ventricular system or the subarachnoid space by a thin membrane. Such cavities may be distinguished by the terms: incomplete porencephaly, pseudoporencephaly or closed porencephaly. In the main, however, any symptoms of cerebral involvement presented by patients with porencephalic cysts arise as the result of the cerebral defect and not because of the cyst, which is purely passive and secondary development. The symptoms most commonly seen in such cases are hemiparesis and convulsions. Arachnoidal cysts may arise secondary to an infectious or inflammatory process in the leptomeninx, or they may be congenital or occur following severe cerebral trauma. If symptoms of cerebral involvement are present with such cysts, convulsions are the most common.

Here we are concerned with a group of cysts that do not fall into either of the above categories, neither are they neoplastic in origin. These cysts lay within the brain substance and did not communicate either with the ventricular system or the subarachnoid space. They gave rise to symptoms and signs of increased intracranial pressure and were associated with other manifestations which were similar to those commonly associated with intracranial neoplasms. Two of these cysts lay in the cerebral hemisphere and one was in the cerebellum.

CASE REPORTS

Case 1. I.B., a 25-year-old married female, was first seen at the University of Chicago Clinics in 1931, complaining of convulsive seizures, tremor of the right hand and headaches of 1 month's duration. She had had several convulsions in childhood, and they recurred in 1923 following the birth of her child. They had then again subsided to recur in 1930 and to continue at intervals of every 2 or 3 months.

Examination. On May 27, 1931, positive neurological findings were a right hemi-
paresthesia, a right hemihypesthesia, and a right lower quadrantic homonymous hemianopsia. Lumbar puncture revealed nothing abnormal. The initial pressure was 160 mm. of water. The fluid was clear and colorless. It contained 3 white blood cells. There was a trace of globulin on Pandy's test. The Wassermann reaction was negative and the colloidal gold curve was 0000000000.

She was placed on anticonvulsant medication but when she returned in February 1932, her convulsions were more frequent and her headaches more severe. The findings on examination were unchanged.

Operation. On Feb. 24, 1932, ventriculography was done. Through burr holes in the occipital region blunt cannulae were inserted into the region of both lateral ventricles. In all, 75 cc. of clear colorless fluid were removed and replaced with air. The ventriculogram revealed an enormous cyst in the left temporoparietal region. It measured 10×6.5 cm. in the lateral roentgenograms and 7×10 cm. in the anteroposterior films. The cyst was separated from the left lateral ventricle by a thin membrane (Fig. 1) and the ventricular system was displaced toward the right. In the lateral view (Fig. 2) the lateral ventricle was lifted upward and forward and again was separated from the cystic cavity by a layer of cerebral tissue. Until these films were seen it was not realized that the cannula on the left side had entered a cystic cavity. Fortunately the fluid from the two needles had been collected separately. That from the right needle (right lateral ventricle) contained 21.8 mg. of protein per 100 cc. That from the left needle (cystic cavity) contained 95.5 mg. per cent.

On Feb. 29, 1932, additional roentgenograms of the skull were made. The cystic

**Fig. 1. Case I. Ventriculogram showing the left lateral ventricle separated from an enormous cyst by a thin membrane. There is also a pronounced shift of the entire ventricular system from left to right.**