SUBDURAL EPITHELIAL CYST IN THE INTERHEMISPHERAL FISSURE

REPORT OF A CASE, WITH SOME REMARKS CONCERNING THE CLASSIFICATION OF INTRACRANIAL EPITHELIAL CYSTS

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Intracranial epithelial cysts† are dysembryonic lesions which develop from inclusion or displacement of ectodermal elements in early fetal life. There is considerable variation both as to site and histologic structure of these congenital anomalies, yet sometimes insight into their obscure genesis may be gained from an individual case which happens to be “a missing piece in the jigsaw puzzle.” The following unusual observation proved to be instructive in this respect and, therefore, will be reported here in full.

REPORT OF CASE

J. van E., a 40-year-old married woman, was referred on June 13, 1947 by Doctor A. Fath, Kalamazoo, Michigan, with the following history.

In the Spring of 1946, the patient noticed episodic weakness and numbness of her left arm. In July, 1946, she had a left-sided convulsive seizure, with a postictal left hemiparesis of 2 hours’ duration. Further attacks occurred once a month; they consisted of initial numbness and clonic contractions of the left upper extremity, then paresis with increased reflexes, astereognosis of the left hand, diminished pain, vibratory and graphesthesia, tactile and vibratory sensations over the entire left side. The electroencephalogram showed focal spikes and slow waves in the lower right parietal area.

Neurologic Examination. There were mild left lower facial weakness and moderately severe rigidity and paresis of the left upper extremity with some ataxia. She was unable to relax the grip of her left hand, yet showed no typical forced grasping. The left leg was also hypertonic, paretic and ataxic. Deep reflexes were increased on the left, left abdominal reflexes were diminished, and a positive Babinski’s sign was present on the left. Stereognosis of the left hand was impaired, and so were graphesthesia, tactile and vibratory sensations in her left leg. She walked with a left hemiparetic gait.

The patient was admitted to Butterworth Hospital on July 9, 1947. On plain roentgenograms of the skull the pineal shadow was slightly shifted downward. Osteoplastic craniotomy on July 14, 1947 disclosed a walnut-sized subdural extra-arachnoid cyst in the frontoparietal region between the falx and the hemisphere. It contained a greenish-grey mucinous fluid. The exceedingly delicate wall of the cyst could be peeled away from the arachnoid, but was adherent to the falx. The lesion was removed as completely as possible.

Histologic Examination. The wall of the cyst consisted of a ciliated columnar epithelium which was attached to a layer of fibroblastic tissue, infiltrated by lymphocytes and plasma cells. The cystic fluid gave a positive mucin-test reaction.

Subsequent Course. The patient made rapid postoperative improvement; her only neurologic residual was increase of reflexes on the left side. Convulsive seizures recurred in the Fall of 1956, following which she noticed increasing numbness and clumsiness of her left extremities.

On readmission to Blodgett Memorial Hospital on Feb. 10, 1957, she exhibited moderately severe left hemiparesis with increased reflexes, stereognosis of the left hand and diminished pain, vibratory and graphesthetic sensations over the entire left side. The electroencephalogram showed focal spikes and slow waves in the lower right parietal area. Arteriography demonstrated a similar but larger mass lesion than before.

2nd Operation. Craniotomy on Feb. 18, 1957 revealed a large right subdural frontoparietal cyst in the interhemispheric fissure. The lesion, which was partially covered by normal brain, contained 80 cc. of greenish-grey turbid mucinous fluid. The extremely fine wall of the cyst was so adherent to the arachnoid that it could not be dissected away without damaging the cerebral cortex, hence only incomplete removal was accomplished.

Histologic Examination. The wall of the cyst showed a collagenous membrane with a papiliforous lining of pseudostratified, columnar, ciliated epithelium, resembling that of the upper respiratory tract; in one specimen there was an area of squamous-cell epithelium without keratinization. In some areas, the ciliated epithelium appeared to be directly attached to the pia. Scattered lymphocytic infiltrates were noted in the connective-tissue lining (Figs. 1 and 2).

Course. Following her second operation, the patient made again an almost complete recovery until her symptoms recurred in the Summer of 1959.

On readmission to Blodgett Memorial Hospital on Nov. 10, 1959, she again showed mild spastic left hemiparesis with slight sensory changes in the left leg. The arteriographic findings were similar as before, though less marked.

3rd Operation. On Nov. 13, 1959, the posterior
Fig. 1. Photomicrograph of wall of cyst showing area of pseudostratified columnar ciliated epithelium.

Fig. 2. Photomicrograph of wall of cyst showing area of stratified nonkeratinizing squamous epithelium.