CHRONIC EXTRADURAL HEMATOMA

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The classical syndrome of acute extradural hemorrhage has been repeatedly emphasized in the literature. The reported lucid intervals have varied from a few moments to 31 days. However, all patients have ultimately presented focal neurological signs and evidence of increased intracranial pressure. Thus extradural hematomata are considered to occur or terminate as an acute process. It is for this reason that we wish to report a patient with a large extradural hematoma existing in a chronic state.

CASE REPORT

A large chronic encapsulated extradural hematoma was encountered in the following patient† during a craniotomy performed 36 days after his head injury for the presumptive diagnosis of intracerebral hematoma.

L.L., a healthy 23-year-old male laborer, was struck in the right temporoparietal region by a piece of pulpwood on March 8, 1949. He was rendered unconscious for a period of 5 to 10 minutes, and dazed for the following hour. During the remainder of the day he experienced severe frontoparietal headache with nausea and vomiting. The next day he was admitted to his local hospital, complaining of headache, nausea and vomiting. Normal neurological findings and a clear colorless CSF were noted. However, nausea and vomiting continued for 48 hours when relief was obtained by giving 500 cc. of 5 per cent glucose in saline intravenously. The patient was asymptomatic for the following 4 days, but on March 14, generalized headache, nausea, and vomiting recurred. Lumbar CSF pressure was normal but symptoms were alleviated by the puncture. He was asymptomatic for another 2 weeks, but from March 28 until April 11 lumbar punctures were performed several times for relief of headache and vomiting. Lumbar CSF pressure was thought to be elevated on only one occasion but no manometric readings were available.

On admission to the Montreal Neurological Institute, April 11, 1949, 34 days after his injury, the patient was asymptomatic and presented no abnormal neurological findings. The only relevant finding was a mild subjective tenderness of the scalp over the right temporoparietal region. The lumbar CSF was clear and colorless under 120 mm. pressure, containing no cells and 42 mg. per cent of protein. No fracture was demonstrated by roentgenograms of the skull. An oxygen encephalogram performed on April 12, 1949 showed the anterior wall of the right lateral ventricle flattened and displaced backwards 1.5 cm. (Fig. 1A). The normal convexity of the anterior end of the ventricle was replaced by a slight concavity, and the septum pellucidum anteriorly measured 6 mm. to the left of the midline. The left lateral ventricle did not fill with oxygen.

With a tentative diagnosis of an intracerebral hematoma, a twist drill biopsy of the right frontal lobe was performed. No gross pathological lesion was encountered, but microscopic sections of a brain worm showed hypertrophied glial cells, new vessels and some endothelial overgrowth. Since the left lateral ventricle had not been visualized, a ventriculogram was performed through bilateral frontal twist drill holes. Both lateral ventricles and the third ven-

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† This patient was referred to Dr. William V. Cone by Dr. J. King of Cornerbrook, Nova Scotia.
CHRONIC EXTRADURAL HEMATOMA

445

Fig. 1. (A) Preoperative ventriculogram. This brow-up left lateral view shows the posterior displacement and flattening of the anterior horn of the right lateral ventricle. (B) Encephalogram made 17 days after operation. This corresponding brow-up left lateral view shows the return of portion one of the right lateral ventricle to its normal contour except for a minimal elevation of the floor.

tricle were filled with oxygen, confirming the impression gained by the encephalogram, namely a right frontal space-occupying lesion (Fig. 1A).

Operation. A right frontal osteoplastic craniotomy was carried out under general anesthesia on April 13, 1949, 36 days after the injury. A large encapsulated extradural hematoma was found in the anterior fossa (Fig. 2). It extended to the midline superiorly and inferiorly, and to the lesser wing of the sphenoid posteriorly. The capsule, consisting of fibroblasts and collagen, measured about 5 mm. in thickness. The lateral wall was firmly adherent to the inner table of the skull and the medial wall was coextensive with the dura. The hematoma consisted of 50 to 75 cc. of large blood clots and black-brown fluid. The frontal lobe and overlying dura were displaced posteriorly 3 to 4 cm. from the anterior cranial vault. After the hematoma had been evacuated and the capsule dissected away, a small fracture was found in the middle of the lesser wing of the sphenoid. No source of active bleeding was discovered. At the conclusion of this procedure the brain was expanded to its normal contour by means of the introduction of Elliott's artificial CSF through the lumbar subarachnoid space.7

The postoperative course was uneventful.

Fig. 2. Photograph of chronic right frontal encapsulated extradural hematoma taken at operation. Part of the outer wall of the capsule had been removed with the free bone flap. Note the edge of the medial wall of the capsule attached to the dura and the amount of posterior displacement of the dura overlying the right frontal lobe.