Cerebellar Histoplasmoma

Case Report

WILLIAM R. BRIDGES, M.D.,* AND DEAN H. ECHOLS, M.D.

Department of Neurosurgery, Alton Ochsner Clinic, New Orleans, Louisiana

Histoplasmosis is a common disease which most frequently affects the pulmonary system. On the basis of positive reactions to skin tests, it has been estimated that from 25 to 30 million people in the United States have had some form of histoplasma infection.

Cooper and Goldstein were able to find only 18 reported cases of involvement of the central nervous system with *Histoplasma capsulatum* in English medical publications between 1952 and 1960. Even rarer are cases of *H. capsulatum granuloma* manifested as expanding intracranial neoplasms, and for this reason, the following case is reported.

Case Report

A 42-year-old Negro driller in a salt mine was admitted to Ochsner Foundation Hospital on February 2, 1966. For 3 weeks he had had frontal and suboccipital headaches, more severe on the right side. About 2 weeks before admission, he complained of "dizziness" and "loss of balance." He would stagger when walking, falling more frequently to the right. He also noted some unsteadiness and clumsiness of his right hand. The patient had traveled within Louisiana but never outside of the state.

Examination. On February 2, 1966, the patient was examined and found to be alert and well-oriented. He held his head in a tilted position with the occiput toward the right. Other abnormalities noted were an apical systolic murmur and hepatomegaly. The oral temperature was 98.6°F.

Neurological abnormalities included prominent nystagmus on vertical and lateral gaze. Moderate hypotonia of the right arm and leg was noted, with slight clumsiness of the right hand. Terminal tremor on finger-to-nose testing with the right hand and heel-to-knee testing with the right foot was present.

Received for publication July 15, 1966.

* Fellow in Neurosurgery, Alton Ochsner Medical Foundation.

The tendon reflexes were generally active, with right ankle clonus. Severe ataxia of gait was noted, with a tendency to fall toward the right. The ataxia was thought to be out of proportion to the degree of incoordination demonstrated in the right arm and leg.

The white blood cell count was 5,250/cu ml, with a differential of 60 segmented cells, 3 basophils, 3 eosinophils, 30 lymphocytes, and 4 monocytes; hematocrit, 49; sedimentation rate, 28 mm/hr; alkaline phosphatase, 86 King-Armstrong units; serum glutamic oxalacetic transaminase, 46 Karmen units; total bilirubin, 0.7 mg/100 ml; bromsulphalein retention, 46%. No abnormalities were detected in roentgenograms of the skull and chest.

Because of the hepatomegaly and the abnormal results of certain laboratory tests, needle biopsy of the liver was performed. On microscopic examination, a heavy infiltration of chronic inflammatory cells was seen in the portal areas, with some extension into the hepatic lobules. The hepatic cells showed a moderate degree of regenerative activity. These observations were thought to be compatible with a diagnosis of posthepatitic cirrhosis.

On February 4, 1966, an electroencephalogram demonstrated bioccipitoparietal delta activity which was sometimes maximal on the left and sometimes spread to the adjacent temporal area on the left. Independent delta activity was noted, however, in the left temporal area, and the possibility of an additional lesion in this region was raised.

Pneumoencephalography was performed on February 14, 1966. The opening pressure was 170 mm of water. No ventricular filling was demonstrated in the roentgenograms. The cisterna magna was obliterated, with both cerebellar tonsils at the level of the atlas.

The cerebrospinal fluid contained 16 white blood cells/cu ml with 6% neutrophils and 94% lymphocytes, protein 43 mg/100 ml, and a first-zone colloidal gold curve. The
cerebrospinal-fluid Kolmer reaction was negative.

*Operation.* With the patient seated, bilateral suboccipital craniectomy was performed on February 14, 1966. Palpation of the dura disclosed a hard mass in the left cerebellar hemisphere. When the dura over this mass was opened, an area of necrotic-appearing cerebellar tissue was noted. Removal of this necrotic cortex with a sucker exposed a yellowish, hard, nodular mass, 3.5 cm in diameter, which was delivered intact without bleeding. It was thought to be an ordinary brain abscess.

The cyst wall measured 5 mm at its median thickness. Multiple sections contained a central area of necrosis boardered by inflammatory cells. Included within this inflammatory infiltration were innumerable histiocytes which contained myriad microorganisms morphologically typical of *Histoplasma capsulatum*. These were well demonstrated by Gomori's methenamine-silver-nitrate stain (Fig. 1).

*Postoperative Course.* Postoperatively, definite improvement of the ataxia, nystagmus, and dysmetria occurred over a period of weeks. Subsequent examination revealed carious lesions of the upper and lower right molars with an associated indurated area of gingiva and tongue. Biopsy of this area demonstrated *H. capsulatum*.

On February 19, 1966, Amphotericin B therapy was instituted. A total dosage of 2910 mg was administered intravenously and 46 mg intrathecally during a period of 12 weeks in 26 injections.

No other lesions were demonstrated in a brain scan made on March 11, 1966. When the patient left the hospital on May 17, he had no complaints. The scalp over the suboccipital craniotomy pulsed freely. There was only a hint of nystagmus and no residual of ataxia.

*Fig. 1.* Photomicrograph of the contents of the cyst showing *Histoplasma capsulatum*. (Gomori's stain, X900).