BRAIN TUMORS SIMULATING MENINGITIS
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(Received for publication January 26, 1951)

With the advent of chemotherapy, the treatment of meningitis has, for the most part, become quite stereotyped. Many patients presenting the most elementary symptoms of meningeal involvement are subjected to intensive doses of the various chemotherapeutic agents and in many cases very little further attempt is made to trace the detailed etiology of the meningeal involvement. In those cases of meningitis due to bacterial organisms this type of procedure may be successful, but because many causes of meningeal irritation are encountered in the practice of medicine that are not infectious in origin, a word of caution must be inserted as to such a therapeutic procedure. Failure to investigate a patient thoroughly at the onset for the specific cause of the meningeal involvement may well result in the neglect of a neurological condition that obviously cannot respond to chemotherapy. This should particularly be kept in mind when the patient fails to respond in an adequate fashion to the therapeutic procedures instituted. Such an unusual course of the illness should make the doctor suspect that the cause of the meningitis might be atypical and that further detailed investigation is indicated. The following 3 cases are reported to emphasize the above facts. In all 3 cases the patients suffered from brain tumors which presented themselves as a meningitis.

Summary. Dermoid cyst involving inferior portions of both frontal lobes, with a long history of sinusitis. Onset of acute illness upon blowing of nose, with severe meningeal reaction, fever, leucocytosis and spinal fluid pleocytosis. Fulminating increased intracranial pressure after encephalography. Partial removal and evacuation of an intracerebral cyst. Recovery.

History of Illness. A white male of 27 years was admitted to the Student Health Service in March 1950 with complaints of severe headache which had come on suddenly after he had blown his nose. Initially the headache was felt all over the head, but soon became localized to the frontal areas with no predilection for one side or the other. The patient felt very ill and retired to bed, remaining there without abatement of his complaints until the next morning when he reported to one of his classes in order to take an examination. Following this he returned to bed. Shortly thereafter he became nauseated, vomited and felt that he had a fever. Forty-eight hours after the onset, he was admitted to the hospital.

Past History. Although the patient had suffered from sinusitis for many years, he was first treated for that disability in 1945 while in the service. During Naval training he had a high fever with a headache and rash which was diagnosed as scarlet fever. During convalescence migratory joint pains and a cardiac murmur developed
with another episode of fever and headache. A diagnosis of rheumatic fever was made. Under salicylates he made a slow recovery but remained in the hospital because of the persistence of headache, joint pains and increased sedimentation rate. The headache was felt to be sinusal in origin and a Luc-Caldwell procedure was performed on the left side.

Nine months later he was given sea duty and during that period the sinuses were drained several times. Upon discharge he returned to school where he played 3 years of intercollegiate football and 1 year of professional football. During his athletic career he was knocked unconscious on 2 or 3 occasions, and he recalled a similar episode at the age of 13.

**Examination.** The patient appeared ill, complained of pain on movements of the eyes and photophobia, and had a temperature of 100.6°F. Cardiovascular, respiratory and gastro-intestinal systems were within normal limits. Positive neurological findings were: nuchal rigidity, engorgement of the retinal veins without papilloedema, and areflexia.

**Laboratory Data.** WBC 12,900: 92 per cent polymorphonuclear leucocytes, 7 per cent lymphocytes and 1 per cent monocytes. Sedimentation rate was elevated. Blood chemistries and urines were normal. CSF pressure was 26 mm. of mercury; the fluid showed 1,744 WBC/c.mm.: 97 per cent polymorphonuclear cells, and 3 per cent mononuclear cells. There were 76 RBC. CSF protein was 41 mg. per cent; sugar 56 mg. per cent; and chlorides 127 milli equivalents/1. Smear of the fluid showed no organisms and culture was sterile.

**Diagnosis.** In view of the sudden onset of the symptomatology, the physical findings and the antecedent history of sinusitis it was thought that the patient had a meningitis probably secondary to a ruptured epidural abscess.

**Course.** The patient was treated with antibiotics and sulfa compounds. He received intravenous feedings and required demerol for relief of his headache. Under this regime he responded quite well and the temperature slowly returned to normal. CSF pressure on the 3rd hospital day was 20 mm. of mercury; the fluid showed 220 cells, of which 90 per cent were polymorphonuclear leucocytes. Attempts to culture organisms from the CSF were unsuccessful. Despite general improvement his temperature continued to spike nearly every day and he occasionally complained of chills.

On the 27th hospital day pneumoencephalography was done; 25 cc. of air were introduced into the spinal canal and an equal amount of CSF was withdrawn. During this procedure the patient had one convulsion. Roentgenograms showed a small pocket of air in the left frontal lobe anterior to the lateral ventricle, but no communication with the lateral ventricles was visible. Following this procedure the patient became worse. Nausea, vomiting and severe headache were persistent and in the course of 24 to 36 hours papilloedema appeared bilaterally, associated with paresis and hyperactive reflexes on the right side. In view of this unsatisfactory turn of events immediate surgical intervention was carried out. The pre-operative diagnosis was probable left frontal lobe abscess.

**1st Operation.** Under general anaesthesia a trephine opening was made over the left frontal eminence and a brain needle inserted to a depth of 4 cm., where a cyst was encountered, from which sebaceous material with hair was evacuated.

**Course.** It was expected that the patient would be relieved by this evacuation until a definitive operation could be performed at an elected time. However, during the next 24 to 36 hours he showed evidence of increasing intracranial pressure