DERMOID and epidermoid tumors of the central nervous system are rare. It is estimated that only about 200 cases have been reported to date. Several publications concerning intracranial dermoids and epidermoids have appeared in recent years so that neurologists, neurosurgeons and neuropathologists have learned to recognize these tumors, especially epidermoids arising in the diploë and causing characteristic x-ray changes in the skull. Weinberger's described pneumo-encephalographic findings that he considered typical of intracerebral epidermoids. The case herewith reported is unique in that the lesion was evident in the plain x-ray films before air injection, appearing as a circumscribed area of decreased density within the left frontal lobe.

CASE REPORT

R.O., a corporal 20 years old, had been in good health until 7 April 1944 when, while at an overseas base, he had an episode during which he felt peculiar. He was not able to describe his subjective state more adequately. The next day without warning, while sitting in a chair, he had a generalized seizure lasting 10 minutes. He bit his tongue and was drowsy for several hours thereafter.

The past history discloses a right mastoidectomy at the age of five and a single convulsion...
at the age of eight. His physical and mental development were otherwise entirely normal. He finished high school at the age of 19 and was inducted into the Army at that time. He was returned to the United States on 26 May 1944. He complained of daily headaches but otherwise was symptom free.

Examination. The patient was right-handed. Except for a narrowing of the left palpebral fissure (which the patient claimed he always had had) the neurological and general examinations were normal. All laboratory studies, including an electro-encephalogram, were normal. X-rays of the skull showed a large regular ovoid area of decreased density in the left frontal lobe (Figs. 1 and 2).

During the next few weeks the patient’s headaches became progressively more severe. A pneumo-encephalogram showed the entire ventricular system to be moderately dilated and shifted to the right. There was a deformity in the anterior portion of the left lateral ventricle.

Operation. On 11 July 1944 a left transfrontal craniotomy was done under local anesthesia. A large mass was found in the left frontal lobe about 4 cm. below the surface. It measured about 4 X 7 cm. and extended mesially to the falkx. On opening into the lesion it proved to be a cyst having a wall of paper thinness, ovoid in shape and containing a thin colorless fluid in which many yellowish-white flakes floated. A thick layer of deep yellow material having the consistency of soft paste was adherent to the cyst wall. This material was removed with ease with a blunt spoon. Numerous short blond hairs were mixed in the substance seemingly not connected with any tissue. All in all about 50 cc. of the colorless fluid and about 60 cc. of the semisolid material were removed. As much of the wall as possible was teased out.
Course. Except for an elevation of temperature (100° to 103.4° lasting for 10 days, the post-operative course was uneventful. The patient was out of bed on the 11th day. At that time he had no complaints. The neurological status was normal. The patient believed that he had greater ease in his thought processes and he became much more interested in things and happenings than he had been for several months. Mental examination showed no memory or intellectual defect.

EXAMINATION OF THE TUMOR

The material removed at operation consisted of clear fluid in which many yellowish-white flakes floated. No cholesterin crystals were found. In the semisolid deep yellow material many short blond hairs were present. The hairs were free. On microscopic study (Fig. 6) the material seemed lifeless and devoid of living cells except in one section where a small cluster of cuboidal cells having deeply staining nuclei was found. The capsule was made up of dense strands of connective-tissue fibers. Below the capsule there was a layer of homogeneous loosely packed material. Beneath this layer there were masses of cells, or rather the outlines of cells, since none of them had nuclei. No blood vessels were seen in any of the sections.

COMMENT

The literature concerning dermoids and epidermoids of the central nervous system has been reviewed by Bailey, Rand and Reeves, King, Gross and others. Their pathologic characteristics and theories concerning their origin have been thoroughly discussed by Bostroem and Bailey. There is still some controversy regarding terminology, but most authors agree that the presence of dermal appendages such as hair warrants the diagnosis of dermoid, while when definite dermal structures are lacking, the term epidermoid should be used. The terms “cholesteatoma” and “pearly tumor” have been used to describe similar lesions. However, both refer to
non-essential characteristics of the tumors so that it seems wise to adhere to the terminology of Bostroem, the epidermoids being the simpler ones, composed exclusively of epidermal cells, whereas in the dermoids, epidermal appendages are also present.

Thus the tumor in this case falls into the category of simple dermoids. Careful study of the material removed failed to reveal any evidence of mesodermal corium, fat, sebaceous glands or other dermal appendages. The appearance corresponds closely to Bailey’s description of epidermoid tumors. However, the presence of hair bespeaks for greater activity earlier in the life history of the cyst. Bailey believed that the lifeless appearance of many of these lesions was due to their growing to a certain size and then becoming choked off and lying dormant for years until, for some reason, obstruction of the cerebrospinal fluid pathways occurs and symptoms develop. This theory would explain the chain of events in the present case. At the time of operation the tumor seemed lifeless and was completely avascular. The patient had no focal signs or symptoms at any time. The x-ray appearance in the plain films is the only unique feature of this case. In other respects it is similar to intracerebral dermoids and epidermoids reported previously.

REFERENCES