CHOROID-PLEXUS PAPILLOMA OF THIRD VENTRICLE

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Choroid-plexus papilloma not only is rare but it is of immense clinical interest because it may cause hydrocephalus either through hypersecretion of cerebrospinal fluid and/or obstruction of its pathway. As special studies, such as lumbar pneumoencephalography, are not always executed in hydrocephalics and, even if done, seldom are of sufficient diagnostic quality, one can readily surmise how such a lesion can be missed and the usual treatments, i.e., shunting procedures, can fail. The following case report demonstrates these facts.

CASE REPORT

A 3-month-old boy was admitted to the Neurosurgical Service of Professor Claude Gros because of an enlarging head. Gestation, delivery and development up to the age of 2 months were normal. One month prior to admission, the head was noted to be larger than normal, the fontanelles were bulging and the sclerae of the eyes were unusually prominent. There then developed increasing sleepiness punctuated by periods of irritability.

Examination. The circumference of the head measured 46 cm. Both fontanelles were enlarged and bulging. Plain roentgenograms of the skull confirmed the clinical impression of hydrocephalus. Lumbar air encephalography, utilizing 40 cc. of air, revealed a communicating type of hydrocephalus with a hugely and symmetrically dilated ventricular system; no obvious neoplasm was seen (Fig. 1). The cerebrospinal fluid was crystal clear. All routine laboratory findings were within normal limits.

Operations. On March 18, 1962, as is the routine surgical treatment of hydrocephalics here, Professor Gros excised the choroid plexus on the right side via a parieto-occipital approach.

Four weeks later, utilizing the same approach, a left choroid plexectomy was to be done when portions of a reddish, granular neoplasm were seen streaming out through the interventricular foramen from the third ventricle into the lateral ventricle. The entire mass was excised in piecemeal fashion, the main bulk being located in the third ventricle. The dimensions of the mass were about 7X6X5 cm. (Fig. 2).

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Fig. 1. Pneumoencephalogram showing symmetrically dilated ventricular system. Retrospectively, on review of the films, a tumor shadow is seen (arrows).

Pathological Diagnosis. Benign choroid-plexus papilloma (Fig. 3).

Postoperative course, except for a minor infection of the wound, was uneventful. The hydrocephalus receded and the fontanelles were sunken. When last seen, 1 month after operation, the baby was well and the occipitobregmatic circumference was 43 cm., 3 cm. less than that preoperatively.

DISCUSSION

A survey of the literature indicated that a choroid-plexus papilloma situated in the third ventricle in an infant aged 3 months is rare. That such a lesion produces hydrocephalus only occasionally by mechanical obstruction but more frequently by virtue of its hypersecreting activity, is borne out by reports of various authors, specifically by Fairburn and Ray and Peck whose managements in their respective cases.
actually were well-controlled biologic experiments in their battle to keep up with the excessive formation of fluid because of hypersecretion. The fact that lumbar air encephalography in our case failed to demonstrate any obstruction would point to the mechanism of hypersecretion as the most probable operating phenomenon. It is the routine of most neurosurgical centers to utilize the so-called “bubble” studies, i.e. instillation of a minimum of air into the ventricular system, for encephalographic scrutinies in hydrocephalics, it being feared that a more adequate filling is fraught with danger to the patient. As this fear is not too well founded and in the light of the present case, it would seem that a more nearly complete filling, as was stressed by Matson, should always be carried out as part of the workup in hydrocephalics. It should be pointed out at this juncture that, retrospectively, a tumor shadow could be glimpsed in the pneumoencephalogram done in the present case (Fig. 1, arrows). As a corollary one could assume safely that should the preoperative workup on any hydrocephalic be inadequate in terms of sufficient filling of the ventricular system and should subsequent shunting procedures fail to produce the desired therapeutic effect, one should strongly suspect the presence of a choroid-plexus papilloma. Whether choroid plexectomy as against the various shunting procedures is a more effective mode of treating hydrocephalics would of course depend upon the personal experiences of the individual surgeon. In the present instance it is undoubtedly through such an operative maneuver and the surgical skill of the operator that the tumor was discovered and removed successfully.

**SUMMARY**

Successful surgical treatment of a choroid-plexus papilloma in a 3-month-old infant is reported. The importance of this type of tumor causing hydrocephalus through oversecretion of cerebrospinal fluid is noted. That the tumor can