HYDROCEPHALUS FROM OVERPRODUCTION OF CEREBROSPINAL FLUID

(AND EXPERIENCES WITH OTHER PAPILLOMAS OF THE CHOROID PLEXUS)*

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Papillomas of the choroid plexus are rare tumors. There were but 12 (0.6 per cent) in Cushing's series of 2023 intracranial tumors. This has been the approximate percentage in other large clinics. We are presenting our series of 7 of these tumors because one case seems to prove beyond a doubt the commonly held view that hydrocephalus can on occasion be caused by an overproduction of cerebrospinal fluid.

In the excellent monograph on the pathology of hydrocephalus by Dorothy Russell6 the three generally accepted ways in which hydrocephalus can be produced are clearly stated: "first, through over-secretion from the plexuses; secondly, through the interposition of an obstruction at some point in the cerebro-spinal pathway; or, thirdly from impairment of absorption."

It is Doctor Russell's belief that though this first method of the production of hydrocephalus may exist, there is not as yet a well enough documented case to give absolute proof that hydrocephalus can result from the overproduction of cerebrospinal fluid alone.

CASE REPORTS

Case 1. R.W., a 20-year-old housewife, entered the hospital in July 1946 because of headaches of 5 years' duration. They had been particularly severe during and after a pregnancy which had terminated normally 3 weeks before.

Examination. There was papilledema of 4 D. with hemorrhages. Visual fields showed concentric contraction. Otherwise, the neurological findings were normal. X-rays of the skull were entirely normal.

Ventriculography revealed marked symmetrical dilatation of the ventricular system, with air in the 4th ventricle and in the cisterna magna (Fig. 1). There seemed to be a small amount of air in the cisterna interpeduncularis. There was a mass the size of a walnut in the region of the glomus of the choroid plexus in the left lateral ventricle (Fig. 2).

Clinical Diagnosis. The case was discussed with Dr. Max M. Peet, whose opinion was that this was a papilloma of the choroid plexus with an overproduction of cerebrospinal fluid. The operator (E.A.K.), however, wished to rule out a lesion of the posterior fossa which might be producing a ball-valve action. It was decided, there-


59
fore, that the posterior fossa should be explored first and, should this be normal, the mass would then be removed from the left lateral ventricle.

Operation, Aug. 16, 1946. The cerebellar approach was made through a curved transverse incision. The occipital bone was of usual thickness. The cisterna magna was exceedingly large; its arachnoid appeared normal. The tonsils of the cerebellum were in normal anatomical position. The 4th ventricle was entered and CSF could be seen coming from the aqueduct of Sylvius. The cerebellar hemispheres appeared normal and were not needled. The wound was closed in the usual manner. It was now believed certain that the significant lesion lay in the left lateral ventricle. The patient was immediately placed on her side and an osteoplastic flap was turned down, centering over the left parietal eminence. A convolution was selected which was thought to be just posterior to the postcentral gyrus and above the supramarginal gyrus. An opening was made here into the lateral ventricle. A tumor about the size of a walnut, yellowish, quite smooth, and firm in consistency was seen arising from the choroid plexus itself. The entire tumor was removed, but some choroid plexus was left in the temporal horn.

Microscopic Diagnosis. Papilloma of the choroid plexus (Fig. 3). The choroid plexus, containing psammoma bodies, from which the tumor had arisen was evident histologically (Fig. 3B).

Course. There was a marked receptive aphasia for several weeks but this soon disappeared. The papilledema