THE CONSERVATIVE TREATMENT OF THIRD VENTRICLE TUMORS*

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(Received for publication October 3, 1947)

The treatment of neoplasms arising in the region of the third ventricle has long been a trying and difficult problem. For practical purposes of treatment, such lesions can be divided into two broad groups.

(1) Completely benign lesions such as colloid cysts, cysts of the septum pellucidum, etc. When an accurate diagnosis of such a lesion has been made by ventriculography, there is no question of the excellent results that can be obtained by direct surgical removal. Thus such cases present no particular problem.

(2) Gliomas arising from neighboring nervous tissue and also the teratomas that originate in the region of the pineal gland. Following total or subtotal removal of such tumors from the region of the third ventricle, the operative and case mortality is exceedingly high and is at least 40 per cent.1 This mortality is approximately the same for both pinealomas and gliomas in this region and thus the surgical treatment of both these pathological groups can be considered together. It is this group of neoplasms whose surgical treatment is controversial.

On the basis of early experiences by one of us (R. G. S.), the following plan of treatment has been carried out over the past 10 years in all cases in which the signs and air studies conclusively demonstrated the presence of a third ventricle tumor other than a colloid cyst, etc. We now forego the satisfaction of an immediate biopsy and content ourselves with a subtemporal decompression followed by intensive irradiation. With such a regimen, the patient may follow one of three clinical courses. If the histologically unverified neoplasm should be of a radiosensitive type, the clinical prognosis is good. If the tumor should be malignant and insensitive to radiation, there will be no alleviation of symptoms. Likewise if the tumor should fall into the group of completely benign lesions, such as the colloid cysts, no therapeutic results will be achieved by such treatment. In both of these latter groups, when the subtemporal decompression fails to become soft after an adequate period of radiation and symptoms fail to regress, a direct exploration of the third ventricle is carried out. In this way the occasional colloid cyst which may be misdiagnosed by ventriculography will be demonstrated and surgically removed, and also subtotal removal of malignant tumors may at this time be carried out with subsequent histological verification to allow an accurate prognosis.

* Preliminary report presented at the meeting of the Harvey Cushing Society at Rochester, Minnesota, May 15, 1936.
Fourteen patients have been so treated. Of these 6 fall into the first group, in which an excellent result was obtained by such treatment. Six patients later proved to have malignant tumors and 2 proved to have completely benign cystic lesions, and these were subsequently reoperated upon. In the following reports, representative cases will be presented from each of these groups.

CASE REPORTS

Mr. S. S., aged 34 years, was well until 8 months prior to admission when he started having severe headache. He had rarely been free of headache during this time. He had occasionally been nauseated during the height of a headache, but never vomited. At times the headache was unilateral, more often on the left side. He had no other symptoms.

Examination was entirely negative.

X-rays. X-rays of the skull were normal. Ventriculogram showed that the lateral ventricles were only mildly dilated and the 3rd ventricle was well outlined. A mass could be seen projecting down from the posterosuperior wall of the 3rd ventricle, approximately 1 cm. in diameter.

Operation (Jan. 4, 1936). Right subtemporal decompression.

Course. The headache was somewhat relieved by the decompression. Lumbar puncture on the 5th postoperative day showed a spinal fluid pressure of 320 mm. The patient was discharged on the 8th postoperative day and received a course of x-ray therapy.

Follow-up. The patient has remained well for 10 years since operation.

Case 2. Piloid astrocytoma of third ventricle. Transfrontal biopsy; subtemporal decompression; irradiation. Patient well.
Miss M. W., aged 10 years, first began to complain of headache 5 years prior to admission. She had recurrent attacks of severe headache about every 3 to 4 months for the next 4 years. The headache was always frontal in location and was often accompanied by vomiting. Three months prior to admission a very severe episode of headache occurred during which she was unable to retain fluids because of persistent vomiting for 3 days. The vomiting was preceded by nausea. There were no other complaints.

Examination. The left optic disc showed evidence of primary optic atrophy while there was 2D of choking on the right. The visual fields showed a left temporal defect. The remainder of the examination was normal.

X-rays. X-rays of the skull showed convolutional atrophy with almost complete erosion of the posterior clinoids. Ventriculogram was not diagnostic because of poor filling but the impression was gained that the anterior horn of the left ventricle was displaced upwards and to the left.

Operation (May 18, 1931). Left frontal craniotomy. The left frontal lobe was elevated and the optic chiasm exposed. A friable gelatinous neoplasm presented between the optic nerves, more on the left. A small piece was removed for histological study. A right sub-temporal decompression was then made. Pathological diagnosis: Astrocytoma fibrillare.

Course. The patient's postoperative course was smooth and she was discharged 2 weeks later at which time the papilloedema was receding. She was given a course of irradiation, following which the decompression became soft. Her vision on the left, where the glioma had partially surrounded the optic nerve, was very poor and on the right was 20/70. Otherwise she continued to be asymptomatic. She has remained well for the past 16 years.

Comment. The above 2 cases represent typical examples of a glioma and a probable teratoma in the region of third ventricle which did well following this conservative therapy. Histological diagnosis was obtained in the last case only because the inadequate ventriculogram suggested a neoplasm in