Intraventricular Craniopharyngioma

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Craniopharyngiomas generally arise from rests of squamous epithelium in the suprasellar region and usually present on computed tomography (CT) as partly calcified nonhomogeneous masses, sometimes with associated hydrocephalus. They often contain one or more cysts within the neoplasm [1]. These tumors comprise 2%–4% of all intracranial neoplasms [1–4]. They have been described in newborn infants and in the elderly. This report describes an unusual presentation of an entirely intraventricular craniopharyngioma.

Case Report

A 65-year-old woman was admitted after two instances of syncope and several weeks of dementia. The neurologic examination was normal except for mental status changes. There was no history of headache or vomiting and no papilledema.

Axial and coronal CT scans demonstrated a 2.4 × 2.0 cm enhancing mass apparently within the third ventricle, with moderate supratentorial hydrocephalus (fig. 1). Digital subtraction angiography excluded the possibility of an aneurysm, and surgery via a transventricular approach was performed. At surgery, a cauliflower-like solid tumor was found within the dilated third ventricle, which arose from a filamentous attachment to the lateral aspect of the third ventricle inferiorly. The tumor was completely removed, and, at the conclusion of the procedure, the lamina terminalis was seen to be intact. Pathology of the specimen revealed a solid papillary craniopharyngioma without cyst formation or calcification. After surgery,the patient did well, but her dementia and hydrocephalus were unchanged. A ventriculoperitoneal shunt was performed and the patient's mental status improved steadily.

Discussion

Craniopharyngiomas arise from rests of squamous epithelium on the tuber cinereum and pituitary stalk. The tumors generally arise in the suprasellar area, but rarely can arise totally within the third ventricle. Review of the recent English literature [4–8] reveals about 10 such cases in the last 30 years. These intraventricular tumors apparently arise from squamous rests in the region of the lamina terminalis and tend to be solid, noncalcified papillary tumors. These patients commonly present with dementia and headaches secondary to obstructive hydrocephalus. Endocrinopathies, including diabetes insipidus, are rarely associated with the intraventricular tumor (10%), in sharp contrast to the greater than 50% incidence with the usual suprasellar craniopharyngioma [6]. Enlargement of the sella is also distinctly unusual in this series, as are visual symptoms. All of the totally intraventricular tumors have been in the adult popu-

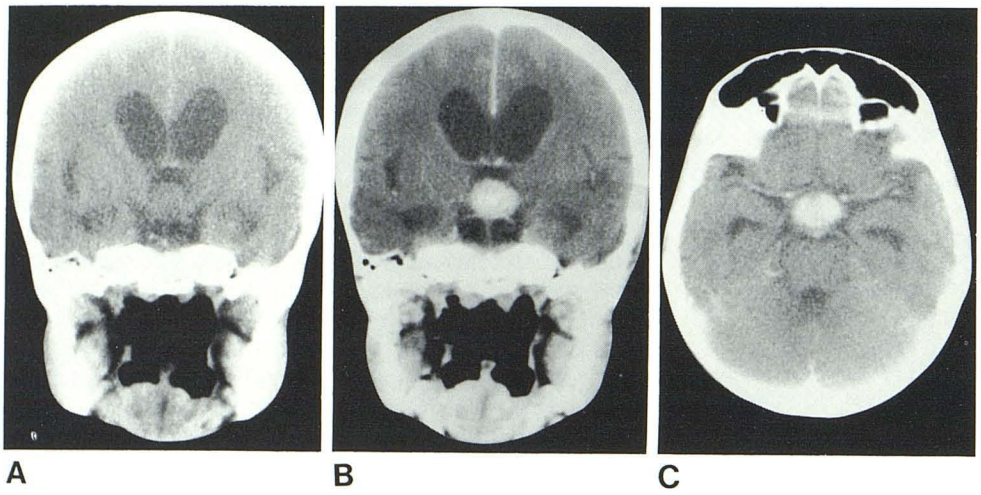

Fig. 1.—**A,** Unenhanced scan, coronal view. Isodense mass in suprasellar area. **B,** Contrast-enhanced coronal scan. Marked enhancement of mass apparently occupying third ventricle. **C,** Contrast-enhanced axial view shows mass and its proximity to circle of Willis.

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lation. This case, as well as the only prior case with available CT scans [4], demonstrated an enhancing, well delineated solid mass contained within the third ventricle. No calcifications were present. The mass did not reach the foramen of Monro, but was causing obvious obstructive hydrocephalus. The presence of a noncalcified, solid enhancing mass within the third ventricle in an adult patient with only mental status changes should suggest the possibility of an intraventricular craniopharyngioma, as well as intraventricular meningioma, glioma, teratoma, dysgerminoma, and choroid plexus papilloma. Aneurysms and colloid cysts may also mimic these solid neoplasms.

REFERENCES

1. Cabezudo JM, Vaquero J, Garcia-de-Sola R, Leunda G, Nombela L, Bravo G. Computed tomography with craniopharyngiomas: a review. *Surg Neurol* **1981**;15(6):422–427
2. Taveras JM, Wood EH. *Diagnostic neuroradiology*, 2d ed. Baltimore: Williams & Wilkins, **1976**;197
3. Newton TH, Potts DG. *Radiology of the skull and brain*, 3d ed. St. Louis: Mosby, **1977**:3033–3034
4. Fitz CR, Wortzman G, Harwood-Nash D, Holgate RC, Barry JF, Boldt DW. Computed tomography in craniopharyngioma. *Radiology* **1978**;127:687–691
5. Cashion EL, Young JM. Intraventricular craniopharyngioma: report of two cases. *J Neurosurg* **1971**;34:84–87
6. Rush JL, Kusske JA, DeFeo DR, Pribram HW. Intraventricular craniopharyngioma. *Neurology* (NY) **1975**;25:1094–1096
7. Dobos EI, Freed CG. An intrinsic tumor of the third ventricle. *J Neuropathol Exp Neurol* **1953**;12:232–243
8. Long DM, Chou SN. Transcallosal removal of craniopharyngiomas within the third ventricle. *J Neurosurg* **1973**;39:563–567