SUBEPENDYMAL GLOMERATE ASTROCYTOMA

REPORT OF TWO CASES

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The purpose of this paper is to report two cases of an unusual neoplasm of the brain. This lesion has been designated “subependymal glomerate astrocytoma” to differentiate it from the more aggressive astrocytoma of similar location and gross characteristics termed “ependymal granule type of astrocytoma.”

Recognition of the former type of tumor during an operative procedure may be of great importance in reference to the method of treatment. Also recognition and study of this lesion in postmortem material may in time add to our general information concerning gliomas. It is therefore believed that attention should be directed toward this neoplasm.

REPORT OF CASES*

Case 1. Two hours prior to admission a 50-year-old white man complained of dizziness and sudden severe pain in the throat, chest, and right shoulder. The pain continued and was severe. An electrocardiogram showed evidence of myocardial ischemia. Roentgenogram of the chest revealed findings compatible with the diagnosis of dissecting aneurysm. A history of prior disease of the nervous system was not elicited. The patient died suddenly within 24 hours.

Autopsy disclosed a dissecting aneurysm of the aorta. The fixed brain weighed 1,350 gm. Externally it showed mild edema and mild tentorial herniation of the right uncal and hippocampus, with a lesser degree on the left. There was a moderate cerebellar pressure cone. The basilar artery showed moderately severe arteriosclerosis. Serial coronal sections of the brain revealed no abnormalities except for the fourth ventricle. This was distended and filled by a firm, solid, greyish-white lobulated mass, 2.0×2.0×4.0 cm., attached to the floor. It had elevated the midline cerebellar structures and flattened the pons and medulla (Fig. 1).

Microscopic Examination. Sections stained with hematoxylin and eosin showed clusters of small uniform nuclei resembling astrocytes (Figs. 2 and 3). Phosphotungstic acid-hematoxylin stains revealed the cell clusters to be surrounded, lobular fashion, by dense astrocytic fibers, which were also arranged circumferentially about blood vessels. Some fibers apparently were attached to the walls of the vessels and at right angles. The vessels were prominent and plentiful. Some contained lipid-filled histiocytes and others revealed hyalinization of the wall. There was no endothelial proliferation. Occasional small cystic areas were found. There was sharp demarcation between the tumor and the underlying parenchyma, which contained normal-appearing ganglion cells (Fig. 4).

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Fig. 1. Low-power photomicrograph of tumor showing attachment to floor of fourth ventricle. Phosphotungstic acid-hematoxylin stain.

Fig. 2. Low-power photomicrograph showing general topography of tumor.