Primary Biventricular Oligodendroglioma

Primer Biventriküler Oligodendrogliyom

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Case Illustration: Primary intraventricular oligodendroglioma is relatively uncommon, with only a few cases reported in the literature (1). A 41-year-old man presented with an intraventricular oligodendroglioma involving both ventricles. He complained of having walking difficulty for the previous 3 months. Neurological examination revealed left hemiparesis and homonymous hemianopsia. Radiological studies demonstrated a biventricular heterogeneous mass with sites of calcification (Figure 1). A moderate degree of ventricular dilatation was also noted (Figure 2a-2b).

Surgery was performed and access to the left lateral ventricle was achieved via a transcortical approach. Both the lateral and medial parts of the ventricle were accessed in order to excise and debulk the tumor. A pinkish-gray highly vascularized tumor was subtotally removed. Neuropathological examination and immunohistochemical staining with synaptophysin revealed a pure anaplastic oligodendroglioma. The patient's hemiparesis improved after surgery.

On radiologic studies, intraventricular oligodendrogliomas cannot be distinguished from choroid plexus papillomas, neuroepithelial-ependymal cysts, meningiomas, or central neurocytomas. Advanced neuropathological techniques and immunohistochemistry help to rule out differential diagnoses (4). Headache and epileptic fits are common complaints in patients with oligodendroglial tumors.

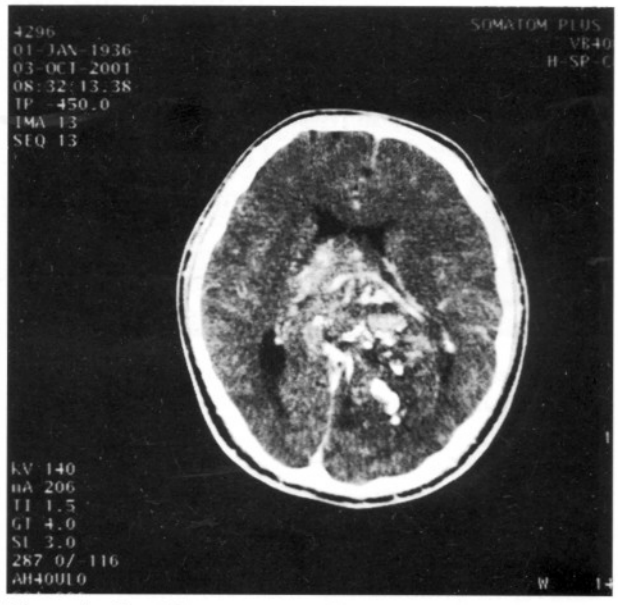

Figure 1. Cranial computerized tomography of the large biventricular heterogeneous tumor shows sites of calcification, small cystic areas, and some regions that are isointense with brain tissue.

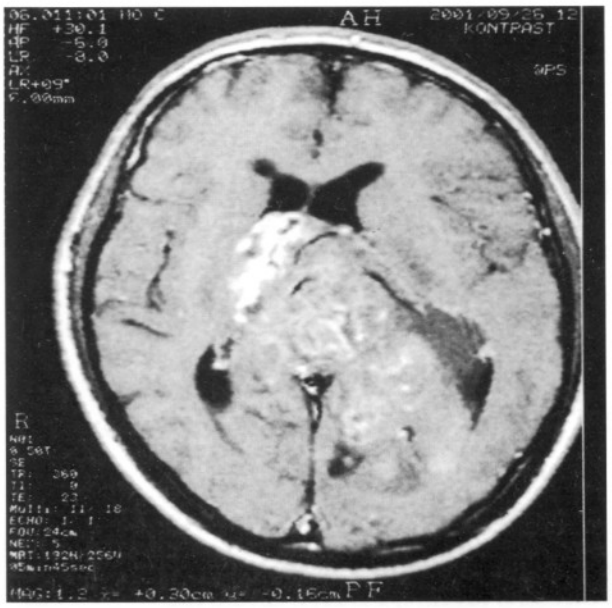

Figure 2a. T1-weighted axial magnetic resonance imaging of the large biventricular tumor. Heterogeneous enhancement with gadolinium, mild hydrocephalus, and hypointense areas of calcification are evident.

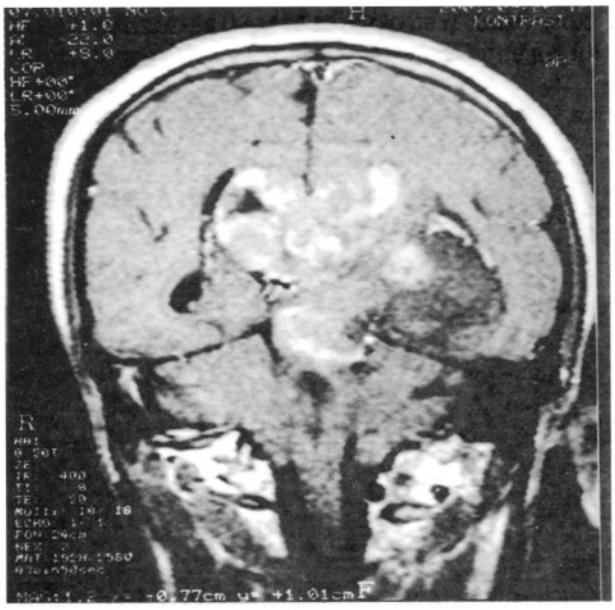

Figure 2b. T1-weighted coronal magnetic resonance imaging of the large biventricular tumor.

However, signs of hydrocephalus are the most prominent findings in intraventricular oligodendroglioma cases. Obstruction of the cerebrospinal fluid pathways often necessitates urgent shunting. Total surgical removal of the tumor should always be the ultimate goal, and this is associated with longer survival than partial resection (1,2,3). Postoperative radiotherapy is also correlated with prolonged survival (5). Chemotherapy can be used in combination with radiotherapy. Recent research has focused on the gene therapy and related investigations at the molecular level (4).

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Advances in diagnosis and management of oligodendroglioma.

Hussein MR, Baidas S.

Oligodendrogliomas are primary brain tumors, genetically characterized by chromosomal alterations in the 1p and 19q. These tumors are chemosensitive. Gross total resection remains the main step in the management of oligodendrogliomas and the extent of surgical tumor resection is an important prognostic variable.