Ganglioglioma case reports

A case of a low-growing left frontoparietal brain tumor with a definite diagnosis of ganglioglioma (CNS WHO grade 1) and oligodendroglioma (CNS WHO grade 2) with areas of anaplastic oligodendroglioma (CNS WHO grade 3) in a patient with long-standing epilepsy [1].

A 60-year-old female presented to her ophthalmologist with blurred vision in the right eye and unremarkable neurological exam. She was referred for brain imaging, which showed multiple lesions in both cerebral hemispheres. Biopsy of the right occipital lesion was elected, as it enhanced most on MRI.

Multifocal intracranial gangliogliomas are exceedingly rare tumors, especially in adults. These tumors present unique management barriers, as they are multifocal at the time of diagnosis, making resection more technically challenging.

In a review of Mansour et al., the average age at diagnosis was 19.2, and 80% of the cases had at least one lesion in the temporal lobe. Two studies opted for resection of intracranial tumors, whereas the remaining studies performed biopsy with conservative management and serial imaging. A biopsy was performed in all cases. They presented the first case of an intracranial multifocal ganglioglioma in a patient over 40 with lesions in the occipital lobe, corpus callosum and frontal lobe at presentation [2].

Rosselló et al. described a progression from ganglioglioma to this composite anaplastic entity after 32 months of follow-up, with apparently nontumoral parenchyma separating the 2 components. Polymerase chain reaction showed a wild-type BRAF gene. Seven months after concomitant chemoradiotherapy, radiologic progression led to a second line of chemotherapy, and a third line of chemotherapy was initiated after a subsequent progression at 11 months.

This case may add some evidence in favor of the glioneuronal maldevelopment hypothesis to explain the oncogenesis of these neuroepithelial tumors [3].

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report a rare case of the craniocervical ganglioglioma. A 3.5-year-old male, presented with severe progressive quadriparesis, gait disturbance, and sphincter deficit. Physical examination demonstrated the quadriparesis, associated with positive Hoffman, Babinski, and clonus signs, and increased respond of deep tendon reflexes. Magnetic resonance imaging (MRI) demonstrated an ill-defined mass within medulla and upper cervical spinal cord, which was hypo to iso signal on T1, heterogeneous iso to hypersignal on T2 and demonstrated marked bright enhancement on T1 with gadolinium (Gad) injection. On surgery, the mass had a soft texture, ill-defined border, and grey to brown appearance. According to the frozen section report, and due to the absence of the tumour-neural parenchymal interference, only decompression of the tumour and expansile duraplasty were performed. The histopathology revealed ganglioglioma. On last follow-up 14 months after surgery, the patient was asymptomatic and neurological status was improved. The craniocervical MRI demonstrated the tumour that did not grow. Although it is rare, the ganglioglioma should be in the differentiated diagnoses of tumours with compatible clinical and radiologic features even in the unusual locations, especially in the pediatric and young patients. Safety surgical resection should be considered in these

patients, whenever possible. In the case of partial resection, that is common in the tumours located within functionally critical structures, long close follow-up rather than radiation therapy is required [4].

Magnetic resonance imaging of a 67-yr-old woman presenting with dysphasia revealed a noncontrast enhancing left-sided lesion in the frontal and parietal pars opercularis. Due to the location of the lesion, nTMS was used to chart both primary motor and language cortex, utilizing this information to plan a safe SB trajectory and sampling area according to the initial work-up recommendations from the multidisciplinary neuro-oncology board. The SB was uneventful, with histology revealing a ganglioglioma, WHO I. The patient was discharged the following day, having declined to proceed with tumor resection (awake surgery) due to the non-negligible risk of morbidity. Upon 1- and 3-mo follow-up, she showed no signs of any procedure-related deficits.

nTMS can be implemented to aid with the planning of a stereotactic biopsy procedure in eloquent areas of the brain, and should be considered part of the neurosurgical armamentarium [5].

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