Tectal glioma case reports

From 2004 to 2020, Kim et al. studied three pediatric patients (age: 9-13 years, all male) and one adult patient (age: 29 years, female) with tectal plate glioma with obstructing hydrocephalus on MRI. One patient had neurofibromatosis type 1. All patients complained about headaches and vomiting, and one patient had diplopia.Endoscopic third ventriculostomy (ETV) was underwent in all patients and a biopsy was obtained from two patients. Pathologic diagnoses were a pilocytic astrocytoma and a low-grade glioma. After ETV with or without biopsy, neurological symptoms were improved in all patients. Three patients did the clinical and radiological follow-up without adjuvant treatment. One patient underwent gamma knife radiosurgery. In two pediatric patients and the adult patient, there was no clinical and radiological progression after 6.2, 6.9, and 8.0 years, respectively. One pediatric patient whose lesion had focal enhancement had radiologic progression without any neurologic symptoms after 5.1 years. Without adjuvant treatment for this lesion, there was no clinical deterioration neither further radiological progression for 6.2 years after radiological aggravation. Tectal plate gliomas showed indolent clinical courses, even after radiologic tumor progression. After the treatment of obstructing hydrocephalus, clinical and radiologic follow-up can be recommended for indolent tectal plate gliomas [1].

Unusual KRAS missense mutation (p.E63K) in patient with juvenile pilocytic astrocytoma of the tectum [2].

2016

A 11 year-old boy with a previous history of obsessive-compulsive disorder (OCD), who experienced a dramatic and acute worsening of OCD symptoms in temporal association with obstructive hydrocephalus secondary to a tectal low-grade glioma. Management and resolution of the hydrocephalus was temporally associated with an improvement in his OCD compulsion symptoms. The present case does not establish proof of cause and effect, but highlights potential multifactorial influences on OCD onset and clinical course. Cortico-striatal-thalamic-cortical pathways, physically distorted by hydrocephalus in this case, have long been implicated in OCD etiology. Clinical implications include the importance of conducting an appropriate neurologic work-up to rule out biological causes for acute and dramatic OCD exacerbations with neurologic signs, even in the context of preexisting OCD. Given that neurologic lesions may exist in the absence of typical signs and symptoms, that they may further disrupt OCD circuitry, and that treatment may lead to resolution of associated psychiatric symptoms, it is important to remain cognizant of these differential diagnoses [3].

2015

Intravenous administration of fluorescein sodium fluoresces glioma burden tissue and can be visualized using the surgical microscope with a specialized filter. Intraoperative guidance afforded through the use of fluorescein may enhance the fidelity of tissue sampling, and increase the ability to accomplish complete resection of tectal lesions. In this report the authors present the case of a 19-year-old man with a tectal anaplastic pilocytic astrocytoma in which the use of fluorescein sodium and

a Zeiss Pentero surgical microscope equipped with a yellow 560 filter enabled safe complete resection. In conjunction with neurosurgical navigation, added intraoperative guidance provided by fluorescein may be beneficial in the resection of brainstem gliomas [4].

2011

A 16-year-old boy who presented with bilateral intention tremor and slowed speech as a result of obstructive hydrocephalus secondary to a tectal glioma. Treatment with endoscopic third ventriculostomy improved his symptoms [5].

2007

A 21-year-old man presented with a hemorrhagic pilocytic astrocytoma of the tectal plate manifesting as sudden onset of severe headache, vertigo, nausea, and vomiting. Computed tomography demonstrated acute hydrocephalus and hemorrhage within the brain stem and fourth ventricle. Magnetic resonance (MR) imaging revealed a dorsally exophytic tectal tumor as hypointense on the T(1)-weighted image and hyperintense on the T(2)-weighted image with contrast enhancement. Radical resection of the tumor was selected because of the unusual aggressive clinical course with hemorrhage and suspicion of malignant components. The tumor was totally resected via an occipital transtentorial approach using a neuronavigation system without surgical complications. The histological diagnosis was pilocytic astrocytoma. The patient was discharged home without neurological deficits on the 9th postoperative day. Twenty-three months after the surgery, follow-up MR imaging demonstrated no recurrence. Tectal plate pilocytic astrocytoma is rarely associated with hemorrhage but should be considered in the differential diagnosis of intracranial hemorrhage with acute presentation. Such exceptional tectal tumors should be resected radically and undergo histological examination to decide on further appropriate treatment [6].

1995

Two patients with tectal low-grade astrocytoma. Each patient underwent CSF diversion and biopsy followed by radiation therapy [7].

1994

The authors present one of their cases operated on for intrinsic tectal plate glioma. The complete resection of the right inferior colliculus (I.C.) had no apparent auditory consequences. The pre- and post-operative tonal and vocal auditory tests were normal. The brain-stem auditory evoked potentials (BAEPs) and middle latency potentials (MLPs) were recorded pre-, post- and intraoperatively. At the end of surgery all waves were present with a marked delay of wave V and a slight delay of the Pa component. The dichotic test showed a significant right ear extinction but admittedly much less important than expected. The role of inferior colliculus (I.C.) in hearing is discussed [8].

1993

A 11-year-old boy was admitted because of visual disturbance and choked disc.Magnetic resonance imaging (1.5T) was performed. Relative T1 weighted image showed a lesion of low signal intensity, and T2 weighted image showed high intensity, about 1.0 x 1.0 cm in size, at the pineal region. The sagittal view showed a mass at the tectum, and stenosis of the aqueduct. It was diagnosed as tectal glioma. Left occipital approach was performed and the tumor was removed subtotally. Histological examination demonstrated a fibrillary astrocytoma. Radiochemotherapy was performed postoperatively.

1)
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