

A Rare Cause of Hydrocephaly: Tectal Glioma

Gunes Orman¹, Aynur Turan², Alper Bozkurt², Omer Yilmaz³, Nese Asal⁴, Mahmut Duymus¹

ABSTRACT

Tectal gliomas are a distinct form of pediatric brainstem tumor usually present with increased intracranial pressure. The tumor may arise from different origins and the most common histologic form is low-grade astrocytoma. We would like to remind and emphasize why it is important to report a tectal glioma in magnetic resonance imaging reports giving two case samples.

Key words: aqueductal stenosis, hydrocephalus, midbrain, tectal glioma, cerebral aqueduct

Hidrocefalinin Nadir bir Sebebi; Tektal Glioma

ÖZET

Tektal gliomlar pediatrik beyin sapı tümörlerinin ayrı bir grubu olup genellikle kafaiçi basıncı artışı ile ortaya çıkarlar. Tümör farklı kaynaklardan gelişebilir ve en sık histolojik formu düşük evreli astrositomdur. Burada iki olgunun sunumu ile manyetik rezonans görüntüleme de tektal gliom raporlamanın önemini hatırlatmak ve vurgulamak istiyoruz

Anahtar kelimeler: Akuaduktal stenoz, hidrosefali, midbrain, tektal glioma, serebral akuadukt

Tectal gliomas are a distinct form of pediatric brainstem tumor usually present with increased intracranial pressure. The tumor may arise from different origins and the most common histologic form is low-grade astrocytoma. We would like to remind and emphasize why it is important to report a tectal glioma in Magnetic Resonance Imaging (MRI) reports with this letter giving two case samples. A 9 year-old girl has suffered from headache, diplopia and decreased school performance during 6 months. She was admitted to the hospital, suspected hydrocephalus and performed MRI. MRI demonstrated dorsally exophytic mass extending from the quadrigeminal plate with decreased signal intensity on T1 and T2-weighted images (WI). No enhancement occurred with contrast administration. There was a moderate hydrocephalus in ventricular system. (Figure 1, 2) A 15 year-old boy admitted to the neurology clinic with complaints of headache. MRI demonstrated moderate hydrocephalus of the ventricular system. Dorsally exophytic extending mass detected extending from the

quadrigeminal plate in the tectal region. After the contrast administration no enhancement was shown in the mass (Figure 3, 4, 5). Periaqueductal location, lack of contrast enhancement, and long periods of stability are classic features for tectal gliomas (1). MRI is an important tool for the follow-up. Because of its slow progress and relatively good prognosis, initial treatment should be cerebrospinal fluid diversion and biopsy (2). The tumor is shown with hypertrophy of the tectum isointensity appeared on T1-WI or those with a tectal tumor occupying the cerebral aqueduct in whom decreased signal intensity appeared on T1-WI, as well as no enhancement after gadolinium administration (3). Tectal glioma is a benign subgroup of brainstem glioma (4). Tectal glioma becomes symptomatic as a result of increased intracranial pressure caused by obstruction of the cerebral aqueduct. The most common clinical symptoms are diplopia, visual deficits, decreased school performance, nystagmus and seizures (4). The patient in this article (Case 1) presented with headache, diplopia and

¹Kafkas University Faculty of Medicine Radiology, ²Etilik İhtisas Hastanesi Radyoloji, ³Suleyman Demiral University Faculty of Medicine Radiology, ⁴Kayseri Eğitim ve Araştırma Hastanesi Radyoloji

Correspondence: Dr. Güneş Orman

Kafkas University Faculty of Medicine Radiology, Kars, Türkiye

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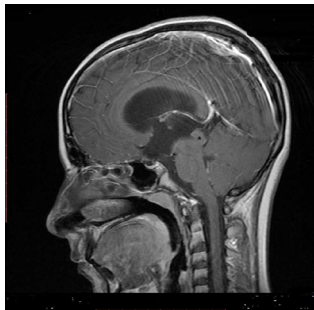


Figure 1. Sagittal contrast enhanced T1 weighted Magnetic Resonance Imaging scan shows dorsally exophytic mass extending from the quadrigeminal plate. No enhancement occurred with contrast administration. There was a moderate hydrocephalus in ventricular system.



Figure 2. Sagittal T2 weighted Magnetic Resonance Imaging scan shows dorsally exophytic mass extending from the quadrigeminal plate. There was a moderate hydrocephalus in ventricular system.

decreased school performance. Computed tomographic scan is sufficient in detecting hydrocephalus but insufficient in revealing tectal mass in half of the patients (4). MRI reveals the tumor easily. MRI should be performed in all children who developed signs of hydrocephalus, especially in cases with non-hemorrhagic etiology and late-onset hydrocephalus. The meaning of contrast en-



Figure 3. Sagittal T1 weighted Magnetic Resonance Imaging scan demonstrates moderate hydrocephalus of the ventricular system. Dorsally exophytic extending mass detected extending from the quadrigeminal plate in the tectal region.

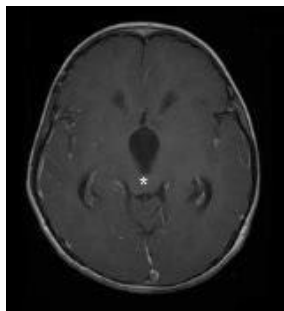


Figure 4. Axial contrast enhanced T1 weighted Magnetic Resonance Imaging scan demonstrates moderate hydrocephalus of the ventricular system. Dorsally exophytic extending mass detected extending from the quadrigeminal plate in the tectal region. After the contrast administration no enhancement was shown in the mass.

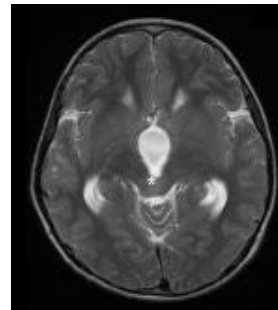


Figure 5. Axial T2 weighted Magnetic Resonance Imaging scan demonstrates moderate hydrocephalus of the ventricular system. Dorsally exophytic extending mass detected extending from the quadrigeminal plate in the tectal region.

hancement in the tumor region is still under discussion (4). The radiologist should pay extra attention because of this mass may be missed easily because of tiny size of the mass and no contrast enhancement. The triventricular hydrocephaly must alert the radiologist. The experience of the radiologist is very important for crossing the radiologist's mind of the diagnose. That may change the decision of operation. Because of benign nature of this tumor generally MRI follow up may be enough.

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