CASE REPORT

BILATERAL THALAMIC ANAPLASTIC GLIOMA : CASE REPORT

Halil Ibrahim Sun[1], Celal Şalçini [2], Ayca Sun[2], Baran Yılmaz[1], Kadriye Agan[2]

[1]Marmara Universitesi Tip Fakultesi, Nöroşirürji Anabilim Dalı, Istanbul, Türkiye [2]Marmara Universitesi Tip Fakultesi, Nöroloji Anabilim Dalı , Istanbul, Türkiye

ABSTRACT

The authors report on a patient with bilateral thalamic anaplastic glioma diagnosed via stereotactic brain biopsy. A 54-year-old man presented with headache and gradually increasing personality changes. Computed tomography and Magnetic Resonance (MR) of the brain demonstrated bilateral thalamic lesions. MR Spectroscopy of the thalamic lesions showed an increased Choline and creatinin peak and a glial tumor was diagnosed radiologically. A stereotactic brain biopsy was performed. Pathological examination revealed anaplastic astrosytoma grade III (World Health Organisation Classification 1993). The patient was referred to radiation therapy. Gliomas of the thalamus are rare and Bilateral Thalamic Anaplastic Gliomas are less defined. Surgical treatment is limited since eloquency of the region and stereotactic biopsy is necessary. The choice of treatment is radiotherapy.

Keywords: Thalamus, Glioma, Bilateral involvement

BİLATERAL TALAMİK ANAPLASTİK GLİOM: VAKA SUNUMU

ÖZET

Bu yazida bilateral talamik anaplastik gliom yazarlar tarafından bildirilmektedir. 54 yaşında erkek hasta artış gösteren kişilik bozukluğu ve baş ağrısı sebebi ile polikliniğe başvurdu. Yapılan kranial bilgisayarlı tomografi ve kranial magnetik rezonans sonucunda bilateral talamik lezyonlar saptandı. Hastaya MR Spectroscopy yapıldı ve artmış kolin ve kreatinin piki görüldü ve glial tümör tanısı koyuldu. Hastaya stereotaktik beyin biopsisi yapıldı. Patoloji sonucu grade III anaplastic astrositom olarak bildirildi (World Health Organisation Classification 1993). Hasta radyaterapi alması için refere edildi. Talamik Gliomlar nadir tümörlerdir ve talamik anaplastik gliomlar daha az bildirilmiştir. Cerrahi tedavi bölgenin elegan oluşundan sınırlıdır ve stereotaktik biopsi ile tanı koyulup radioterapi yapılması günümüzdeki tedavi yöntemidir.

Anahtar Kelimeler: Talamus, Gliom, Bilateral tutulum

INTRODUCTION

Bilateral thalamic glial tumors are rare and less than 50 cases have been published in the literature[3]. The diagnosis of the patients with biltarel thalamic glioma is stereotactic biopsy instead of surgery[2]. Radiotherapy or chematherapy may be plan after pathologic examination. The difficulties of the approaching to thalamic region, diverted many surgeons to other treatment options.

CASE REPORT

Presentation and examination: This 54 year-old male was admitted with a 6-months history of a gradually increasing personality changes and headaches. Physical examination revealed no abnormality. Neurological

İletişim Bilgileri:
Halil Ibrahim Sun, M.D.
Marmara Universitesi Tip Fakultesi, Nöroşirürji, Istanbul, Türkiye
e-mail: nssun@yahoo.com

Marmara Medical Journal 2008;21(3);257-260

examination revealed bilateral papiledema. Computed tomography scans of the brain showed a bilateral thalamic mass lesion. The thalamic masses were hypointense in T1 and hyperintense in T2-weighted images. The tumor has no contrast enhancement bilaterally (Fig 1). MR spectroscopy revealed an increase in the Cholin and creatinin level. The decreas of the NAA level was meanly seen. The creatinin increase is higher than the increase of the cholin level. Also MR Spectroscopy revealed myoinositol increase. The increase of the creatinin level is an atypic property of patients with glial tumor.

Neurohistologic analysis of the stereotactic biopsy material lead to the diagnosis of the glial tumor grade II. After the biopsy the patient did well. Radiotherapy was planned to initiate at the time of this writing.

Histopathological examination:

Tumor tissue was fixed in 10% buffered formalin and embedded in paraffin. Most sections were stained with haematoxylin and eosin and selected sections with periodic acid-Schiff (PAS), reticulin, toluidine blue and May Grünwald Giemsa (MGG) stains. Histological examination of the tumor specimens revealed glial tumor Mitotic activity was present. Tumor cells were positive for GFAP (clone GA-5, diluted 1/250, Neomarkers, CA),

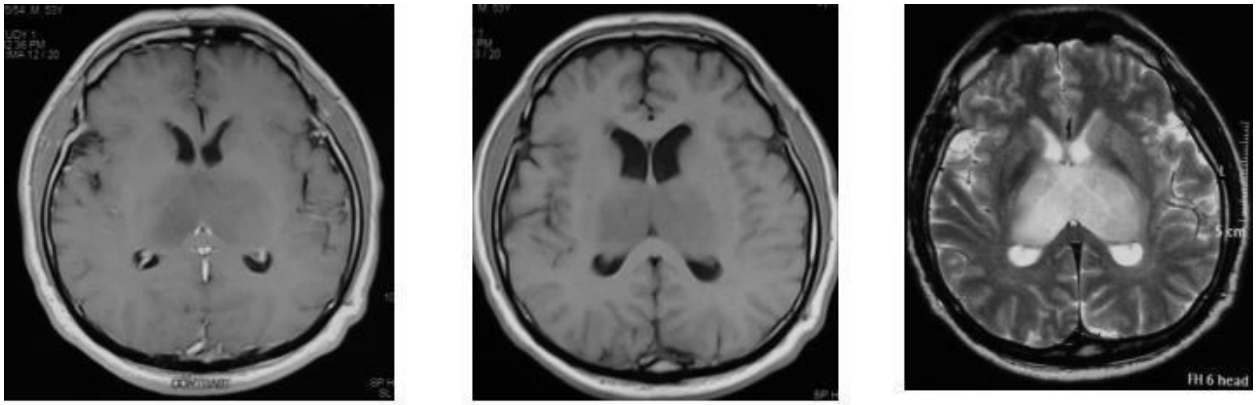

Figure 1: A: Axial- T1- weighted MR image with gadolinium showing no contrast enhancement of the bilateral thalamic tumor. B: Axial T1 weighted MR without gadolinium showing hypointense bilateral thalamic tumor.C: Axial T2 weighted MR showing hyperintense bilateral thalamic tumor.

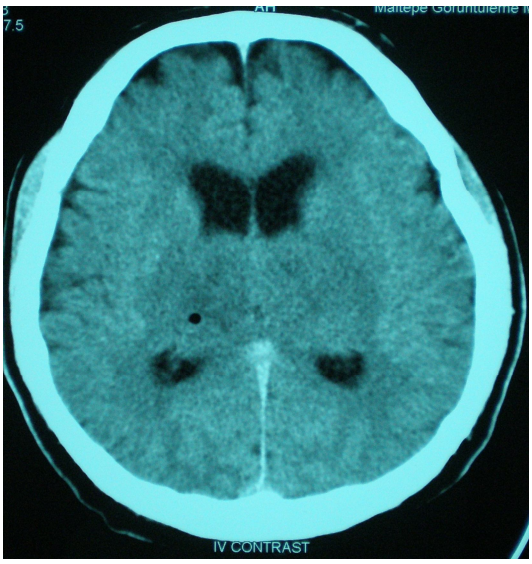

Figure 2: Axial Cranial Tomography of the patient with gadolunium. Bilateral thalamic tumor was seen without enhancement.

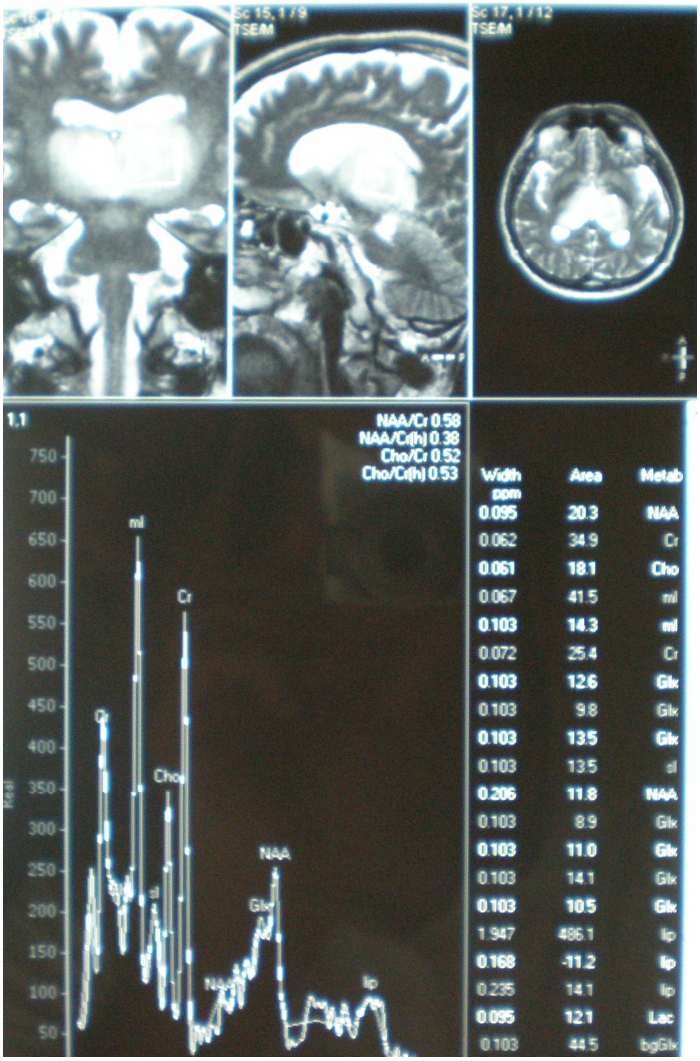

Figure 3 : Magnetic Resonance Spectroscopy of the patient with bilateral thalamic tumor.

DISCUSSION

Primary tumors of the thalamus account for only 1-1.5% of all intracranial tumors and approximately 25% of them arise in children aged 15 years or under.

Diffuse and bilateral involvement of thalamic nuclei by these tumors makes surgical therapy very difficult and no case of radical removal has been described in the literature. Consequently, the main role of surgery is limited and usually performed for a histological diagnosis as we did. Generally, these gliomas are low-grade astrocytomas (grade II of WHO classification), but limited anaplastic areas may be encountered. Radiotherapy and chemotherapy are sometimes utilized as adjuvant therapy, but their role is questionable. Outcome is generally poor, independently of the therapy that is utilized. Rapid fatal evolution after diagnosis and the almost complete unresponsiveness of these tumors to radiotherapy make these rare tumors difficult to treat.

Anaplastic gliomas usually show enhancement after contrast administration. But in this case there is no contrast enhancement.(Fig 1).

Severe dementia and personality modification observed in adults affected by bilateral thalamic glioma is attributed to the involvement of dorsomedial nuclei of thalami and their connections with temporal and frontal lobes[9].

Bilateral thalamic glial tumors are rare and less than 50 cases have been published in the literature[1-8].

The clinic, metabolic and radiologic features of bilateral thalamic gliomas are different than the glial tumors.

REFERENCES

1. Di Rocco C, Iannelli A. Bilateral thalamic tumors in children. Childs Nerv Syst 2002;18:440-444.
2. Yoshida M, Fushiki S, Takeuchi Y, Imamura T, Shigata T, Morimoto A, et al . Diffuse bilateral thalamic astrocytomas as examined serially by MRI. Childs Nerv Syst 1998;14:384-
3. Reardon DA, Gajjar A, Sanford RA et al . Bithalamic involvement predicts poor outcome among children with thalamic glial tumors. Pediatr Neurosurg 1998;29:29-35.
4. Partlow GD, del Carpio 'Donovan R, Melanson D, Peters TM. Bilateral thalamic glioma: Review of eight cases with personality change and mental deterioration. Am J Neuroradiol 1992;13:1225-30.
5. Esteve F, Grand S, Rubin C, Hoffmann D, Pasquier B, Graveron-Demilly D, et al . MR spectroscopy of bilateral thalamic gliomas. Am J Neuroradiol 1999;20:876-81.
6. Hirano H, Yokoyama S, Nakayama M, Nagata S, Kuratsu J. Bilateral thalamic glioma: Case report. Neuroradiology 2000;42:732-4.
7. Ruel JH, Broussolle E, Gonnaud PM, Jouvet A, Rousselle G, Chazot G. Bilateral thalamic glioma. A clinicopathological study of 2 cases. Rev Neurol 1992;148:742-5.
8. Ziegler DK, Kaufman A, Marshall HE. Abrupt memory loss associated with thalamic tumors. Arch Neurol 1977;34:545-8.
9. Kouyialis AT, Boviatsis EJ, Prezerakos GK, Korfias S, Sakas DE. Complex neurobehavioral syndrome due to bilateral thalamic gliomas. Br J Neurosurg 2004; 18:534-7.