Olgu Sunumu

Sylvian Fissure Lipoma: Case Report

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✔ Intracranial lipomas are rare lesions that represent 0.1 % to 1.7 % of all intracranial tumors. This 35-year-old man presented to our clinic with the history of tonic-clonic seizures for 2 years. Cranial magnetic resonance imaging (MRI) studies revealed hyperintense, nonenhancing mass on T1- and T2-weighted images on left sylvian fissure. The intensity of the lesion was suppressed on fat saturation pulse sequence. Antiepileptic medication resolved the epilepsy complaint and after 6 months of follow-up period patient was seizure free. Sylvian lipomas should be medically followed-up unless they produce symptoms which are related to their mass.

Key words: Intracranial lipoma, sylvian fissure, sylvian lipoma

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Silviyan Fissür Lipomu: Olgu Sunumu

✔ Kafaiçi lipomlar ender görülür. Tüm intrakranial kitlelerin % 0.1-1.7'si kadardırlar. Otuz beş yaşında erkek hasta 2 yıldır mevcut olan toniklonik nöbet yakınmaları ile kliniğimize başvurdu. MR incelemesinde sol silviyan sistern yerleşimli T1 ve T2 ağırlıklı kesitlerde kontrast tutmayan hiperintens lezyon varlığını gösterdi. Yağ baskılamasında lezyonun yağ içeriği olduğu saptandı. Antiepileptik ilaç başlandı. Altı aylık takip süresinin sonunda nöbetlerinin durduğu görüldü. Silviyan lipomlar kitle etkisi yapmadıkları sürece ameliyat edilmemeli ve medikal tedavi ile izlenmelidirler.

Anahtar kelimeler: Kafa içi lipom, silviyan fissür, silviyan lipom

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Intracranial lipomas are rare lesions that represent 0.1 % to 1.7 % of all intracranial tumors [(2)]. They are mostly seen in pericallosal cistern but quadrigeminal, superior cerebellar, suprasellar, interpeduncular, cerebellopontine, and sylvian cisterns are other locations that lipoma can be seen intracranially [(2,8)]. They are believed to be congenital in origin [(2,10)].

In this report, we present a patient with lipoma located at sylvian fissure. The radiological and clinical features of this lesion were discussed.

CASE REPORT

This 35-year-old man presented to our clinic with the history of tonic-clonic seizures for 2 years. His neurological examination was normal. Cranial magnetic resonance imaging (MRI) studies revealed hyperintense, nonenhancing mass on T1- and T2-weighted images on left sylvian fissure. The intensity of the lesion was suppressed on fat saturation pulse sequence. There was no vascular lesion in and around the lesion (Figure 1). The MRI signal characteristics of the lesion were thought a lesion with fatty tissue. With these findings a sylvian lipoma diagnosis was made.

Antiepileptic medication with carbamazepine 600 mg/day was given. After 6 months of follow-up period patient was seizure free.

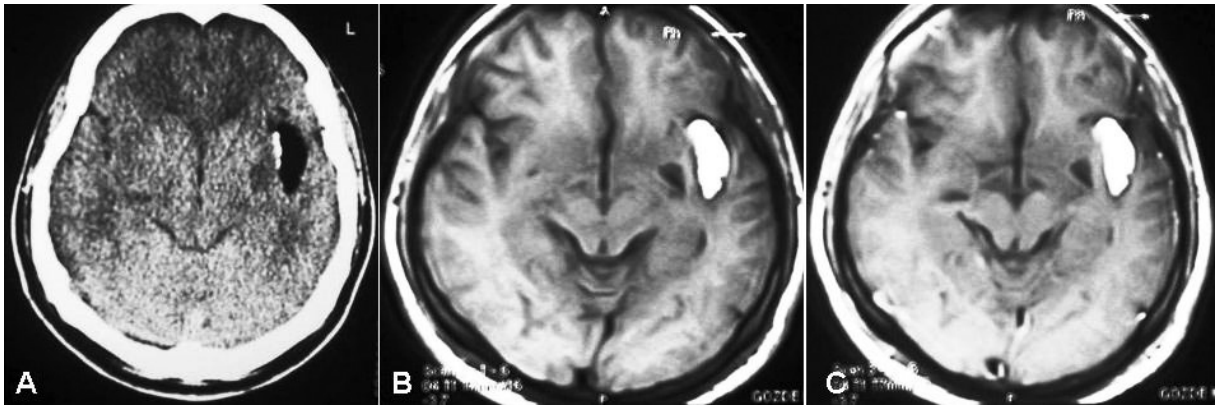

Figure 1. CT (a), Noncontrast T1-weighted (b) MR and contrast T1-weighted (c) MR images demonstrating the lipoma.

DISCUSSION

A few pathogenetic theories about development of intracranial lipomas have been described. In dysraphic terms as a mesodermal inclusion within the closing neural tube; in hyperplastic terms as a proliferation of fat cells normally present within the leptomeninx; in metabolic terms as the deposition of fatty, catabolic products of nerve tissue; and in heterotopic terms as the surviving derivative of a displaced dermal anlage in which other mesenchymal elements recede. Another theory attempts to address the congenital, malformative nature of intracranial lipomas that intracranial lipomas derive from the embryologic "meninx primitiva". Although initially thought to be of mesodermal origin, it is now clear that the meninx primitiva is a mesenchymal derivative of neural crest. Normally the inner meninx is resorbed by an orderly process, as its extracellular space expands to create the subarachnoid cisterns [10].

Clinical presentations of intracranial lipomas related the location of the mass as in other lesions but due to close relation of lipomas to the cortical areas of the brain epileptic activities are the most often expected symptoms. Intracranial lipomas are often asymptomatic and rarely cause hydrocephalus, convulsions, cerebellar symptoms, and upward gaze palsies. Lipomas located in the quadrigeminal cistern often present with diplopia and behavioral disturbances secondary to brainstem compression and signs of raised intracranial pressure due to hydrocephalus [2,9].

The brain lesions that cause spontaneous T1 hyperintesity on MRI are the lesions with hemorrhagic components, protein-containing lesions, fatty lesions, lesions with calcification or ossification, lesions with other mineral accumulation, and melanin-containing lesions [1]. Clinical view of the case and other MRI, computerized tomography (CT) techniques/sequences help in the differential diagnosis of the lesion.

On CT, lipomas are sharply demarcated areas of marked hypodensity that do not demonstrate enhancement after intravenous contrast. Calcification is often present in interhemispheric lipomas, most commonly within the fibrous capsule surrounding the lipoma. The MR appearance of a lipoma is that of a hyperintense mass on T1-weighted sequences, becoming hypointense on long-TR images as the TE increases. On fat saturation pulse sequences lipomas are isointense to gray matter [11,12].

The imaging characteristics of lipomas, epidermoids, and dermoids are very similar. Tumor location, density of the lesion on CT and signal homogeneity of the lesion on MRI can help to distinguish these radiographically similar, but pathologically different entities. Dermoids tend

Table 1. Literature on sylvian fissure located lipomas.

Authors/year	Age/Sex	Clinical features	Diagnosis	Treatment	Outcome
Hecth/ 1935	-	-	autopsy	-	-
Scherer/ 1936	-	-	autopsy	-	-
Yalcin&Fragoyannis/ 1966	91/F	-	autopsy	-	-
Dragojevic at al./ 1973	50/F	Generalized epileptic seizures	autopsy	-	-
Schwesinger et al./ 1982	37/M	-	autopsy	-	-
Hatashita et al./ 1983	20/M	Generalized epileptic seizures	CT and angiography	Partial removal	Remission of the seizures
Dyck /1985	38/M	Uncinate fits with auditory and olfactory hallucinations	CT and angiography	Partial removal and medical	Remission of the seizures
Mauri et al./ 1989	46/M	Generalized epileptic seizures	CT	Biopsy and medical	Seizures controlled by antiepileptic drugs
Futami/ 1991	26/F	Headache	CT	Partial removal	Improved
Sarioglu et al./1999	38/F	Uncinae fits	CT and MRI	Total removal and medical	Improved
Guye et al./ 1999	28/F	Headache	CT and MRI	Medical	Improved
Feldman et al./2001	27/M	Tonic-clonic seizures	MRI	Medical	Improved
Yildiz et al./2004	34/M	Tonic-clonic seizure	CT and MRI	Partial removal and medical	Free of seizures with medication
	55/F	-	CT and MRI	-	-
	46/M	-	CT and MRI	-	-
	55/F	-	CT and MRI	-	Improved
Chao et al./2008	57/F	Severe headache	CT and MRI	Total removal	Improved
Present Case/2009	35/M	Tonic-clonic seizure	CT and MRI	Medical	

to occur adjacent to th midline. They appear round or lobulated on CT and usually have slight mass effect and foci of calcification with no contrast enhancement or surrounding edema. They have high signal on T1-weighted MRI due to their lipid content and heterogeneous signal on T2-weighted images due to the mixed composition of the tumor. Imaging studies of epidermoids reflect the high levels of cholesterol and keratin within the tumor. On CT, a welldefined, lobulated mass with hypoattenuation similar to that of cerebrospinal fluid (CSF) is typically seen. MR imaging also shows epidermoids as masses that typically have signal intensity similar to that of CSF, being hypointense on T1-weighted MR images and hyperintense on T2-weighted MR images. However, atypical epidermoids are frequently found. If the lesion shows T1 shortening, it can be confused with dermoid or lipoma, but an epidermoid will not demonstrate chemical shift artifact and signal will not suppress after application of a fat-saturation pulse. Echo-planar diffusion-weighted imaging reveals intracranial epidermoid tumors as hyperintense lesions relative to the brain and CSF [1,12].

Intracranial lipomas are slow-growing lesions, and biological course is favorable even without surgical treatment. In the English literature, with

this case 18 cases of sylvian fissure lipomas were reported [2-9,12]. Five of them diagnosed at autopsy. Although the epileptic seizures are the most common symptom, headache and uniciate fits were other rare presentation symptoms. Radiological features of the sylvian lipomas are not different than other intracranial counterparts. Because MRI technology allows more accurate diagnosis of lipomas, biopsy is not mandatory in terms of management of treatment. Surgical intervention should be considered if there are problems such as compressive effect or resistance to anticonvulsive medical treatment. If surgery is necessary, partial resection was recommended by most authors because of the deep location of the lesion and its strong adherence to sylvian cortex, as well as the intricate involvement of the MCA and/or its branches [2,3,5].

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