

Simultaneous Bilateral Sudden Visual Loss Due to Temporal Arteritis

Temporal Arterit'e Bağlı Eş Zamanlı, Ani Görme Kaybı

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Case Report

Olgu Sunumu

ABSTRACT

A 72-year-old man has bilateral sudden visual loss (SVL), which occurs after sequentially transient bilateral vision loss (TVL) in one week. He also complained of headache, jaw claudication and weight loss for 4-5 months. His familial history and CT scan were normal but he had high ESR and CRP levels. His vision was no light perception (NLP) in both eyes and funduscopy and FFA findings suggest right central retinal artery occlusion (CRAO) and posterior ciliary artery occlusion on left eye. Bilateral temporal artery biopsy was positive for temporal arteritis (TA). However, intravenous bolus methylprednisolone treatment was given to the patient in 72 h and after intravenous treatment oral prednisone was given to the patient. The vision impairment was not occur in 3 months. In older patient, TVL, headache, jaw claudication may show TA. Early diagnosis of TA may prevent total visual loss.

Key Words: Bilateral sudden visual loss, central retinal artery occlusion, posterior ciliary artery occlusion, temporal arteritis, transient visual loss.

INTRODUCTION

Temporal Arteritis (TA) is a vasculitis of medium to large size of arteries. The condition is most prevalent in the elderly population. The frequency of TA was reported 17-24/100.000 in North America and Europe.

The common presenting signs are decreased temporal artery pulsations, artery tenderness, and sudden visual loss from anterior ischemic optic neuropathy (AION) or central retinal artery occlusion (CRAO).

ÖZ

Yetmiş iki yaşında erkek hastada, bir hafta boyunca süren aralıklı geçici görme kaybı ataklarını takiben her iki gözde ani görme kaybı gelişmiş. Beraberinde hasta 4-5 aydır baş ağrısı, çene hareketlerinde ağrı ve kilo kaybından şikayetçiydi. Hastanın aile hikayesinde ve çekilen CT'sinde bir problem yoktu ancak ESR ve CRP'si yüksekti. Her iki gözde ışık persepsiyonu negatif ve funduscopy ve fundus florosein anjiyografi bulguları; sağ gözde santral retinal arter tıkanıklığı, sol gözde ise arka silier arter tıkanıklığı ile uyumluydu. Bilateral temporal arter biopsisi temporal arterit lehineydi. Hastaya 72 saat boyunca intravenöz bolus tarzında metilprednizolon ve ardından oral prednizolon tedavisi başlanmasına rağmen, 3 ay sonraki kontrolde hastanın görmesinde bir düzelme olmadı. Yaşlı bir kimsede geçici görme kaybı atakları, baş ağrısı, ağrılı çene hareketleri varlığında temporal arterit akla gelmelidir. Temporal arteritin erken tanısı görme kaybını önleyebilir.

Key Words: Bilateral ani görme kaybı, santral retinal arter tıkanıklığı, arka silier arter tıkanıklığı, temporal arterit, geçici görme kaybı.

Ret-Vit 2011;19:270-273

The common related symptoms are temple headache, fever, jaw claudication, weight loss, and malaise.¹ Therefore unilateral branch or central retinal artery occlusion can be found in about 10% of GCA patients, bilateral CRAO was reported only a few cases due to TA.¹⁻⁵ We present a case as a rare sign of CRAO on the right eye and posterior ciliary artery occlusion on the left eye due to TA which caused bilateral sudden visual loss.

Geliş Tarihi : 12/04/2011

Kabul Tarihi : 14/06/2011

Received : April 12, 2011

Accepted : June 14, 2011

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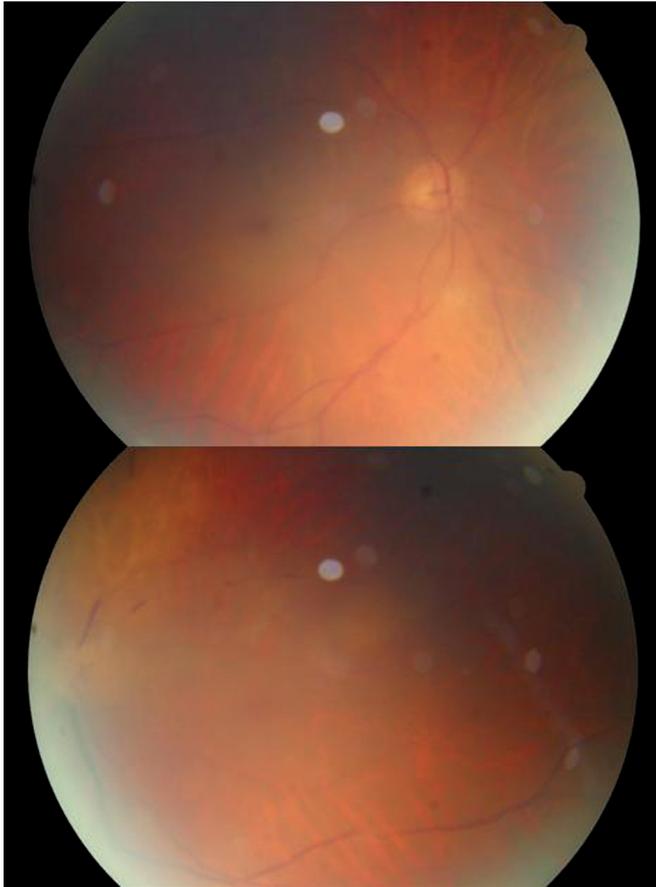


Figure 1: CRAO on the right eye and posterior ciliary artery occlusion on the left eye.

CASE REPORT

A 72-year-old male developed bilateral sudden visual loss. His initial symptom was sequentially transient bilateral vision loss, which lasted 5-10 minutes during 1 week. The last transient bilateral vision loss was occurred 12 hours ago, which lasted for about one hour. He complained of headache, jaw claudication and weight loss during 4-5 months. His body temperature was normal but he felt dizzy and malaise. He had experienced intermittent blurred vision in his both eyes for six months. and hypertension, he had mentioned to take antihypertensive medicine and nonsteroidal anti-inflammatory drugs, sometimes for his headache.

Our patient had neither a familial history nor any clinical and laboratorial evidence of hemoglobinopathy such as leukemia, thrombotic thrombocytopenic purpura or post head injury and Wegener's granulomatosis. CT scan was evaluated normal.

His eye examination demonstrated in both eyes no light perception (NLP) and amaurotic pupils. Anterior segment exam was unremarkable. The intraocular pressure of each eye was 16 mmHg. Fundoscopy revealed pallor retina with cherry red spots in right eye (Figure 1). Fluorescein angiography demonstrated an area of retinal arterial occlusions with non-perfusion of the macula and retina in right eye, and incomplete choroidal filling in left eye (Figure 2).

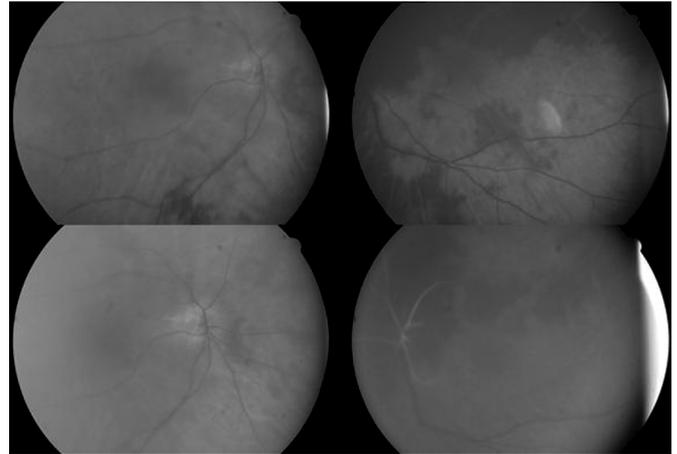


Figure 2: Fundus fluorescein angiogram (FA).

Top: FA in the right eye showed central retinal artery occlusion with capillary non-perfusion in early stage and choroidal non-perfusion in the left eye.

Down: Late stage of fundus fluorescein angiogram showed occlusion of central retinal artery on the right eye and posterior ciliary artery on the left eye with markedly retarded influx of fluorescein.

His ESR was 117 mm/hr and CRP was 58 mg/L. The temporal arteries were engorged and mildly tender. Histopathologic examination of the excised temporal artery segment revealed a recanalized thrombotic occlusion of the lumen along with fibrosis of the muscular wall (Figure 3, upper part). Histiocytic aggregates of granulomatous nature were present and fragmentation of the internal elastic membrane was seen on elastic tissue stain (Figure 3, lower part).

In addition Figure 4 show fragmented elastic lamina and mononuclear cell infiltration on the wall with a multinucleated histiocyte. He was treated with 1 g methylprednisolone intravenously for three days of admission, followed by 1 mg/kg/day oral prednisolone.

At three months follow-up, though jaw claudication and headache had resolved, the vision had not improved. In addition, ESR was measured 14 mm/hr and CRP was 6.1 mg/L after three months follow up.

DISCUSSION

Simultaneous or sequentially bilateral CRAO has been reported in many conditions such as leukemia, thrombotic thrombocytopenic purpura, post head injury and Wegener's granulomatosis.³ Simultaneous or sequentially bilateral CRAO have been reported although is a rare event.⁴

The frequency of TA was reported 17-24/100.000 in North America and Europe. In addition TA is rarely diagnosed in Asia, as the incidence is 1.7 per 100.000 populations.⁶

Kwok at al., have reported bilateral CRAO and visual loss as the first case in a Chinese patient due to TA², and then Hayreh et al., have also reported three cases in the same year.¹

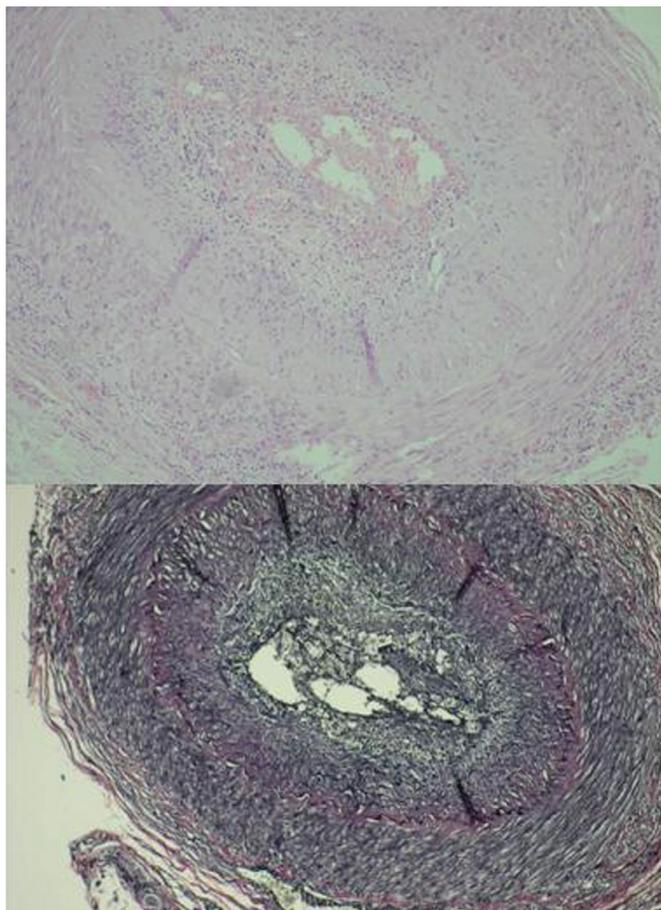


Figure 3: Temporal artery biopsy.
Top: Thrombotic lumen with recanalisation and mononuclear inflammatory cell infiltration on the fibrotic muscular wall (Hematoxylen and eosin x200).
Down: Fragmented internal elastic lamina of the arterial wall (Verhoeff elastic stain x200).

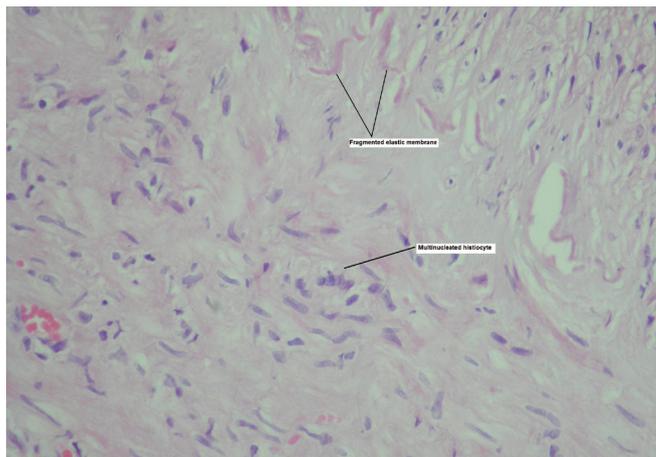


Figure 4: Fragmented elastic lamina and mononuclear cell infiltration on the wall with a multinucleated histiocyte (Hematoxylin and eosin, x400).

Hayreh et al., have reported ocular involvement rate of 50% in TA confirmed by temporal artery biopsy. Patients with ocular involvement were significantly older than those without ocular involvement in their study. In addition, transient visual loss was reported in 30.6% and CRAO was reported in 14.1% of cases in this study.¹

Liu et al., have reported transient visual loss in 18% and CRAO was reported in 5% of cases.⁷ The most cause of sudden visual loss is anterior optic neuropathy (AION), and second is CRAO in TA.¹⁻⁷ In our case had older age and his initial symptom was sequentially transient bilateral vision loss (TVL), which lasted 5-10 minutes during 1 week. TVL is one of the common forewarning symptoms of permanent visual loss in TA. The duration of TVL usually lasts 2-10 minutes as it did in our patient.

Table 1: Review of literatue related with retinal artery occlusion due to TA.

	Unilateral CRAO	Bilateral CRAO	Cilioretinal artery occlusion	TVL (%)	PCAO
Hayreh et al. (n=85) Year:1998	12 (14.1%)	3 (3.5%)	12 (14.1%)	30.6%	-
Liu et al. (n=45) Year:1994	3 (5%)	-	3 (%5)	18%	
Froozan et al. (n=39) Year:2003	8 (21%)	-	-		
Kwok et al. (a case) Year:1998		1		+	
Esgin et al. (a case) Year:2005		1			
Cumurcu at al. (a case) Year:2011		1			1

n: number of patients, CRAO: Central Retinal Artery Occlusion, TVL: Transient Visual Loss, PCAO: Postrior Ciliar Artery Occlusion.

Table 2: Review of literatue related with retinal artery occlusion due to TA according to types of vision loss.

	Simultaneous Bilateral VL	Unilateral VL	Sequential Bilateral VL
Hayreh et al. (n=85) Year:1998	4 (4.7%)	55 (67.7%)	23 (27%)
Liu et al. (n=45) Year:1994	7 (17%)	19 (46%)	15 (37%)
Froozan et al. (n=39) Year:2003	-	8 (21%)	-
Kwok et al. (a case) Year:1998	1	-	-
Esgin et al. (a case) Year:2005	-	-	1
Cumurcu at al. (a case) Year:2011	1	-	-

VL: Visual Loss, n: number of patients.

The prolonged TVL may be associated with chronic ocular hypoperfusion as the result of vascular lumen narrowing.^{1,3,8} Review of literature related with retinal artery occlusion due to TA and types of vision loss were demonstrated in table 1, 2. The delay in diagnosis or treatment of TA can cause several serious consequences, including irreversible visual loss. The blindness caused by TA is preventable in the majority of cases when diagnosed early and treated properly.¹⁻⁷

The treatment should be immediately, which consist of methylprednisolone intravenously for three days, followed by oral prednisolone administration.¹⁻⁷ Kwok et al., have reported sequentially bilateral CRAO, prevent of visual loss in second eye by corticosteroid treatment.² Froozan et al., also reported to recovery of visual function in patients with biopsy-proven GCA.⁹

However, in some case has not been an improvement in the vision despite corticosteroid treatment.¹⁻⁴ Similarly, at three months follow-up, the vision had not improvement in our case. Differently from the other cases, fluorescein angiography demonstrated that in the left eye choroidal filling defects are due to occlusion one of the posterior ciliary arteries in our case.¹⁰ The delay in diagnosis of TA can cause irreversible visual loss. When an elderly present with forewarning symptoms such as TVL, headache, jaw claudication, TA should be considered. According to us, if this patient had presented to the hospital during his episodes of TVL, the bilateral blindness might have been prevented.

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