รายงานผู้ป่วย (Case Report)

ภาวะอุดตันของหลอดเลือดแดงจอตา ในผู้ป่วยหลอดเลือดแดงใหญ่อักเสบ: รายงานผู้ป่วย

กัลยรัตน์ ธรรมคำภีร์ (พ.บ.)[1] และ เกศกนิษฐ์ ธรรมคำภีร์ (พ.บ.)[2]

[1]ภาควิชาจักษุวิทยา คณะแพทยศาสตร์ มหาวิทยาลัยบูรพา ชลบุรี ประเทศไทย
[2]ภาควิชาอายุรศาสตร์ คณะแพทยศาสตร์ มหาวิทยาลัยบูรพา ชลบุรี ประเทศไทย

บทคัดย่อ

บริบท ภาวะอุดตันของหลอดเลือดแดงจอตา ในผู้ป่วยหลอดเลือดแดงใหญ่อักเสบเป็นภาวะที่สำคัญทางคลินิก แต่รายงานผู้ป่วยในประเทศไทยยังมีจำนวนจำกัด

วัตถุประสงค์ เพื่อศึกษาลักษณะอาการทางคลินิก ผลตรวจทางห้องปฏิบัติการและตรวจทางพยาธิวิทยา และการรักษาของภาวะอุดตันของหลอดเลือดแดงจอตา ในผู้ป่วยหลอดเลือดแดงใหญ่อักเสบ

กรณีศึกษา รายงานผู้ป่วยฉบับนี้นำเสนอกรณีผู้ป่วยชายไทยสูงอายุที่มีอาการสูญเสียการมองเห็น ทั้งสองข้างอย่างเฉียบพลันร่วมกับอาการปวดศีรษะ 3 สัปดาห์ หลังจากนั้นผู้ป่วยมีอาการปวดศีรษะรุนแรงขึ้นเรื่อย ๆ รู้สึกอ่อนเพลีย และมีอาการเจ็บขณะเคี้ยวอาหาร วันก่อนมารับการรักษาได้มีการตรวจร่างกาย รวมถึงการตรวจวัดระดับสายตาและการตรวจจอประสาทตาโดยละเอียด ผลการตรวจทางห้องปฏิบัติการพบว่า ค่าการตกตะกอนของเม็ดเลือดแดง (ESR) และระดับโปรตีน C-reactive protein (CRP) สูงผิดปกติ ทั้งนี้ได้ทำการตรวจชิ้นเนื้อจากหลอดเลือดแดงขมับ (temporal artery biopsy) เพื่อยืนยันการวินิจฉัยโรคหลอดเลือดอักเสบ (giant cell arteritis, GCA) ซึ่งเป็นโรคอักเสบของหลอดเลือดขนาดกลางถึงขนาดใหญ่ที่เกิดขึ้นทั่วร่างกาย ทำให้มีการสูญเสียการมองเห็นอย่างรุนแรงและถาวรได้ ถือเป็นภาวะฉุกเฉินทางจักษุวิทยาที่ต้องได้รับการวินิจฉัยและรักษาอย่างเร่งด่วน การวินิจฉัยที่รวดเร็วและการเริ่มให้ยาคอร์ติโคสเตียรอยด์โดยทันที มีความสำคัญอย่างยิ่งในการป้องกันภาวะสูญเสียการมองเห็นอย่างถาวรและภาวะแทรกซ้อนอื่น ๆ

สรุป การดูแลรักษา GCA อย่างมีประสิทธิภาพจำเป็นต้องอาศัยแนวทางสหสาขาวิชาชีพ โดยเฉพาะความร่วมมือระหว่างจักษุแพทย์และแพทย์ผู้เชี่ยวชาญสาขาอื่น ๆ เพื่อส่งเสริมการวินิจฉัยตั้งแต่ระยะแรกและป้องกันการสูญเสียการมองเห็นในผู้ป่วย

คำสำคัญ ภาวะอุดตันของหลอดเลือดแดงจอตา หลอดเลือดแดงใหญ่อักเสบ

ผู้นิพนธ์ที่รับผิดชอบ เกศกนิษฐ์ ธรรมคำภีร์
สาขาอายุรศาสตร์ คณะแพทยศาสตร์ มหาวิทยาลัยบูรพา
ชลบุรี ประเทศไทย
E-mail: katkanit.th@go.buu.ac.th

Central retinal artery occlusion due to giant cell arteritis: A case report

Kanyarat Thammakumpee (M.D.)[1] and Katkanit Thammakumpee (M.D.)[2]

[1]Department of Ophthalmology, Faculty of Medicine, Burapha University, Chonburi, Thailand
[2]Department of Internal Medicine, Faculty of Medicine, Burapha University, Chonburi, Thailand

Abstract

Introduction: Reports of giant cell arteritis cases in Thailand remain limited, despite its clinical significance.

Objective: To describe the symptoms, clinical manifestations, ophthalmologic assessments, laboratory investigations, and histopathological characteristics of patient with Central retinal artery occlusion due to giant cell arteritis

Case presentation: This case report presents an elderly Thai male patient who experienced a sudden onset of bilateral vision loss accompanied by a persistent headache. Three weeks later, the patient developed progressively worsening headache, generalized fatigue, and jaw claudication for three days before seeking medical attention. A comprehensive clinical evaluation was performed, including visual acuity assessment and detailed fundoscopic examination. Laboratory investigations revealed significantly elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels. A temporal artery biopsy was subsequently conducted to confirm the diagnosis of giant cell arteritis (GCA). GCA is a systemic inflammatory disease affecting medium- to large-sized arteries, which can result in severe and irreversible vision loss. It is considered an ophthalmologic emergency that requires prompt recognition and urgent management. Early diagnosis and immediate initiation of corticosteroid therapy are critical in preventing permanent visual impairment and other complications.

Conclusion: The effective management of GCA necessitates a multidisciplinary approach, particularly involving collaboration between ophthalmologists and other medical specialists.

Keywords: Central retinal artery occlusion, giant cell arteritis

Corresponding author: Katkanait Thammakumpee
Department of Internal Medicine, Faculty of Medicine,
Burapha University, Chonburi, Thailand
E-mail: katkanit.th@go.buu.ac.th

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การอ้างอิง

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Introduction

Giant Cell Arteritis (GCA) is a systemic inflammatory condition affecting medium to large arteries. The exact etiology of this disease remains unclear; however, it is more commonly observed in the elderly population. Ocular manifestations may include visual impairment resulting from arteritic anterior ischemic optic neuropathy (AAION) or central retinal artery occlusion (CRAO). Additionally, patients may present with severe headaches localized to one or both temporal regions, pain along the temporal artery, fever, fatigue, and jaw claudication, particularly during mastication, often accompanied by generalized myalgia[1]. Research indicates that GCA is the most common cause of vasculitis in adults and constitutes a significant ophthalmologic emergency due to its potential to cause irreversible vision loss[2]. In Thailand, reports of GCA cases are notably scarce[3]scalp abscess, prolonged transient monocular visual loss (TMVL. In contrast, a study conducted in the Japanese population aged over 50 years estimated a prevalence of 1.7 cases per 100,000 individuals[4]. Furthermore, visual loss attributed to CRAO has been reported in approximately 5% of affected patients[2].

Case presentation

A 77-year-old male with a medical history of bilateral carotid artery stenosis, vascular dementia, Parkinson's disease, hypothyroidism, chronic kidney disease, dyslipidemia, hypertension, and chronic obstructive pulmonary disease presented with a sudden onset of bilateral visual loss and headache persisting for three weeks. The patient reported a progressive headache, generalized malaise, and jaw claudication for three days. The headache was localized to the left temporal region and was occasionally accompanied by ocular pain in the left eye. There was no associated fever, dizziness, nausea, or vomiting.

On examination, vital signs were within normal limits. Visual acuity assessment revealed hand motion (HM) in the right eye and light perception (LP) in the left eye. The margin reflex distance 1 was +5 mm bilaterally.

Slit-lamp biomicroscopy and intraocular pressure measurements were within normal limits, except for the presence of a relative afferent pupillary defect in the left eye. Fundoscopic examination demonstrated bilateral optic disc pallor, left eye more than right eye, severe arteriolar attenuation, and diffuse retinal whitening. A cherry-red spot at the macula was also observed (Fig. 1). Ocular motility was full in all directions in both eyes. Neurological examination findings were unremarkable. The macular optical coherence tomography (OCT) revealed thickening of the inner retinal layer in both eyes (Fig. 2).

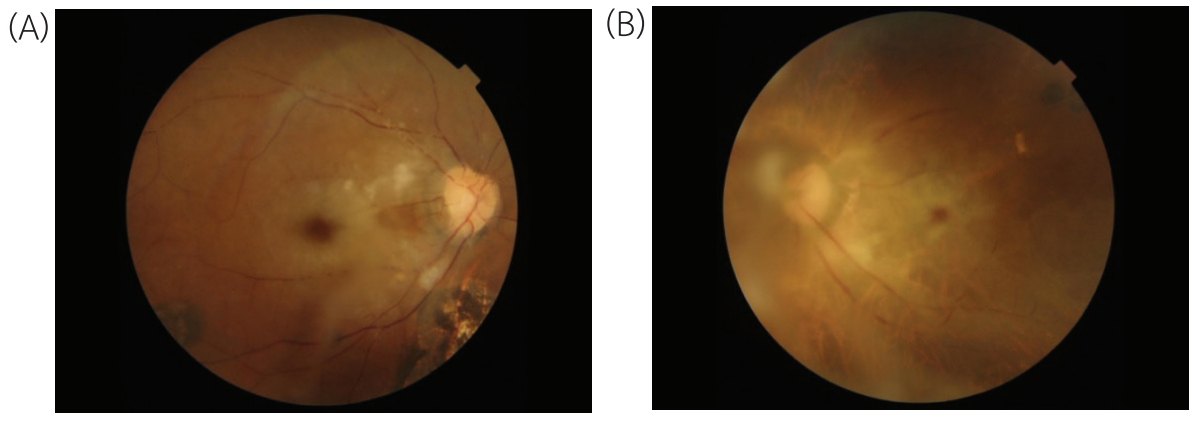


Figure 1 Fundus photo demonstrating bilateral optic disc pallor, left eye more than right eye, severe arteriolar attenuation, and diffuse retinal whitening in the right (A) and left (B) eyes.

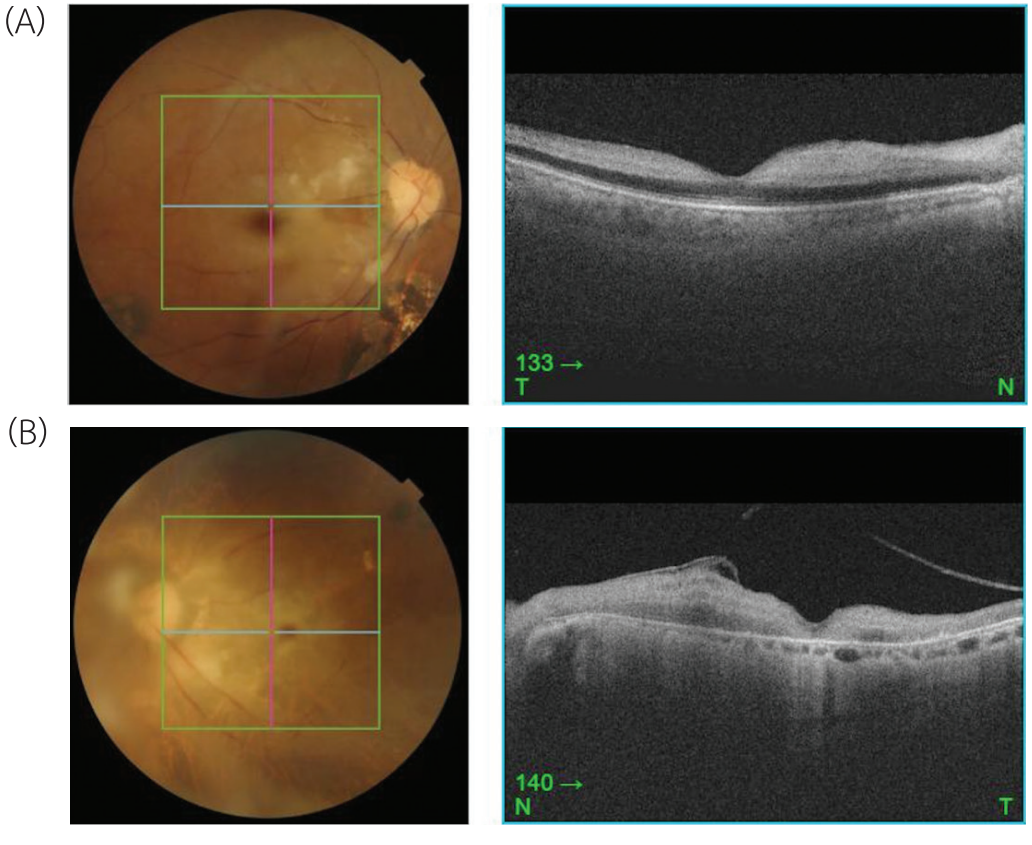


Figure 2 Optical coherence tomography of the macula demonstrating thickening of the inner retinal layer in the right (A) and left (B) eyes.

Admission laboratory values included an erythrocyte sedimentation rate (ESR) was 81 mm/h, a C-reactive protein concentration (CRP) was 50.7 mg/dL. Complete blood count (CBC) demonstrated mild anemia, a white cell count was 8,860/µL, platelet count was 216,000 cell/

mm^3. Serum electrolytes were within normal limits. The patient subsequently underwent a temporal artery biopsy in the operating room. Histopathological examination of the temporal artery revealed transmural inflammation characterized by an infiltration of lymphocytes, macrophages, and occasional multinucleated giant cells. Disruption of the internal elastic membrane was evident, as demonstrated by elastin staining, findings consistent with GCA.

The patient was diagnosed with bilateral arteritic CRAO. He was initially treated with high-dose intravenous methylprednisolone (1 g per day for three days), followed by oral prednisone at a dosage of 50 mg per day. The oral corticosteroid was gradually tapered based on clinical symptoms, ESR, and CRP levels. While the patient's headache, generalized malaise and jaw claudication showed significant improvement, there was no recovery in visual function. Two weeks after treatment initiation, his visual acuity remained at HM in the right eye and LP in the left eye.

We performed this research with approval from Burapha University Institutional Review Board (IRB HS019/2568).

Discussion

CRAO is generally classified into four categories based on etiology: (1) non-arteritic permanent, (2) arteritic, (3) non-arteritic with cilioretinal artery sparing, and (4) non-arteritic transient. Arteritic CRAO accounts for only 4.5% of CRAO cases; however, despite its lower prevalence, it has the worst visual prognosis compared to other subtypes5[5,6]. The most common underlying cause of arteritic CRAO is GCA, which leads to stenosis and occlusion of medium to large arteries. CRAO associated with GCA is often attributed to an ischemic process initiated by granulomatous inflammation, leading to thrombotic occlusion of the posterior ciliary arteries (PCAs). The PCAs supply the choroid, optic nerve head, and cilioretinal artery. Additionally, the central retinal artery and PCAs may share a common trunk, which can further contribute to the pathophysiology of the disease.

In our patient, the clinical manifestations of bilateral CRAO due to GCA in Thai patients were similar to those previously described, characterized by an age of over 60 years and a rapid onset of severe visual loss. However, the most common cause of visual loss in GCA is AAION. This case exhibited a significantly elevated ESR, with most patients demonstrating high CRP levels. Additionally, systemic symptoms, including headache, generalized malaise, and jaw claudication, were present in our patient.

Suspicion of GCA-related vascular compromise should arise when individuals over the age of 50 present with CRAO. In such cases, fluorescein fundus angiography should be performed to evaluate for PCAs occlusion, as its presence is highly suggestive of GCA-related CRAO[7-9]. However, due to the patient's poor systemic condition, this examination was not performed in this case. The gold standard diagnostic test for GCA is a temporal

artery biopsy, with an estimated sensitivity of approximately 77%[10]. Ideally, temporal artery biopsy should be performed before initiating glucocorticoid therapy. However, given the urgency of preventing permanent visual loss, GCA is considered an ophthalmologic emergency requiring immediate treatment. As a result, temporal artery biopsy may be conducted after the initiation of glucocorticoid therapy, but it should be performed within two weeks of starting treatment[11].

The American College of Rheumatology has established five diagnostic criteria for GCA, which are widely recognized by rheumatologists as the gold standard for diagnosis. These criteria include: (1) age ≥50 years at onset, (2) new-onset localized headache, (3) tenderness of the temporal artery or a reduced temporal artery pulse, (4) ESR of ≥50 mm/h (Westergren method), and (5) a positive temporal artery biopsy confirming GCA. If a patient meets three or more of these criteria, referral to a rheumatologist should be considered[12].

Conclusion

Our case highlights bilateral CRAO associated with GCA in a Thai patient. These findings indicate that in elderly patients presenting with CRAO, a comprehensive evaluation for potential GCA is warranted. This assessment should include a detailed history focusing on systemic symptoms, fluorescein fundus angiography, and relevant laboratory investigations such as CBC, ESR, and CRP. given the urgency of preventing permanent visual loss, GCA is considered an ophthalmologic emergency requiring immediate treatment. The definitive diagnostic modality remains temporal artery biopsy, as a positive result substantiates the clinical suspicion and facilitates the initiation of the necessary aggressive corticosteroid therapy.

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