The cilioretinal circulation in giant cell arteritis

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INTRODUCTION

- The blood supply to the optic nerve head is from the posterior ciliary arteries and peripapillary choroid
- The cilioretinal artery is an anatomic variant that arises from this system
- Giant cell arteritis (GCA) most commonly causes vision loss as a result of an anterior ischemic optic neuropathy (AION)1
- The cilioretinal artery may also be involved in isolation or in combination with AION
- Here, we describe two unique cases involving the cilioretinal circulation:
  1. AION with cilioretinal artery occlusion and paracentral acute middle maculopathy (PAMM)
  2. Central retinal artery occlusion (CRAO) with cilioretinal sparing

METHODS

- Consecutive patients with a diagnosis of GCA seen at St. Michael’s Hospital and Kensington Eye Institute were retrospectively reviewed
- Those patients with biopsy-proven GCA and involvement or selective sparing of the cilioretinal circulation were included
- Clinical characteristics including fundus photos and optical coherence tomography (OCT) were reviewed

RESULTS

- Two patients met the inclusion criteria and were included in the study
- Both patients had temporal artery biopsies that confirmed the diagnosis of GCA and were treated with oral corticosteroids

Patient 1:
- A 73-year-old woman with painless vision loss in her left eye for one day
- This was preceded by transient vision loss 10 days prior in the same eye
- Examination revealed a visual acuity of 20/20 OD and CF@1 ft OS with a left RAPD. Dilated examination showed a right cotton wool spot, left pallid optic disc edema and retinal edema in the distribution of the cilioretinal artery (Figure 1)
- OCT demonstrated hyperreflective band at the level of the inner nuclear layer, compatible with PAMM (Figure 2).
- This is the second reported case of a patient with GCA and PAMM in the same eye2
- In a patient with GCA, this is the first case that demonstrates PAMM secondary to cilioretinal artery occlusion

Patient 2:
- A 93-year-old woman with new headaches, jaw claudication and fatigue. She presented with a 1-day history of painless vision loss in her right eye
- Examination revealed a visual acuity of HM OD and 20/30 OS with a right RAPD
- Dilated fundus examination showed diffuse retinal edema with selective sparing of the retina in the distribution of the cilioretinal artery (Figure 1)

CONCLUSION

- Vision loss from GCA may selectively involve or selectively spare the cilioretinal circulation
- We report two unique clinical presentations including AION with cilioretinal artery occlusion and PAMM, as well as cilioretinal sparing CRAO
- PAMM itself is a relatively new diagnostic finding and the former case represents one of two cases in literature of GCA and PAMM reported in the same eye

REFERENCES


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