

Symmetrical Hollenhorst Emboli with Branch Retinal Artery Occlusion

Sanjay Kumar Mishra, Ashok Kumar

Army College of Medical Sciences & Base Hospital Delhi Cantt, New Delhi, India

Abstract

Purpose: To report a rare phenomenon of symmetrical hollenhorst emboli with branch retinal artery occlusion in a middle aged male with sub-optimal visual recovery.

Case Description: A 50 year old man with a history of being known case of diabetes mellitus since 07 years presented to the ophthalmic emergency with sudden, profound diminution of vision in right eye of 05 days duration. His best corrected visual acuity (BCVA) was 20/400 in right eye and 20/30 in left eye. Fundus examination of right eye revealed normal optic disc with two symmetrical yellowish, refractile cholesterol emboli (Hollenhorst plaques) in supero-tempora and inferotemporal branch of retinal artery. Emboli in supero-temporal retinal had lead to obstruction of artery with pale retina in its distribution and superior part of macula. Immediate treatment with tab acetazolamide 500mg stat, ocular massage alongwith paracentesis was done with no improvement in vision. Cardiology consultation revealed cardiac emboli on trans-esophageal echocardiography but normal carotid Doppler. Patient was treated with anticoagulant, antiplatelet therapy with no evidence of adverse cardiac or neurological event on follow-up for next 02 months with some improvement in BCVA to 20/200.

Conclusion: Symmetrical hollenhorst emboli leading to BRAO is a rare phenomenon which requires immediate ophthalmological as well as cardiology management for preventing ocular morbidity as well as mortality in these patients.

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Keywords: Hollenhorst emboli; Branch retinal artery occlusion; Anticoagulant therapy

Case Presentation

A 50 year old man with history of diabetes mellitus for past 07 years presented to the ophthalmic out patient department with sudden, profound diminution of vision in right eye of 05 days duration. His systemic parameters were normal and ocular examination revealed a best corrected visual acuity(BCVA) of 20/400 in right eye and 20/30 in left eye. Patient had normally reacting pupil in both eyes with early cortical cataract opacities in both eyes. Fundus examination of right eye revealed normal optic disc with two symmetrical yellowish, refractile cholesterol emboli (Hollenhorst plaques) in supero-temporal and inferotemporal branch of retinal artery (Figure 1 A&B, blue arrow). Emboli in supero-temporal retinal arteriole had lead to obstruction of arteriole with pale retina in its distribution. Superior part of macula was affected. (Figure 1 A & B, yellow arrow). Treatment with oral acetazolamide 500mg stat, ocular massage and paracentesis was done with no improvement in vision. Immediate cardiology consultation was obtained which revealed cardiac emboli on trans-esophageal echocardiography and normal carotid doppler with deranged coagulation profile. Patient was treated with anticoagulant and antiplatelet therapy. No evidence of adverse cardiac or neurological events seen during 02 months follow-up. BCVA improved to 20/200 after 02 months. It's a rare presentation of symmetrical retinal artery emboli involving superotemporal and inferotemporal retinal arteriole with branch retinal artery occlusion.

Discussion

Branch retinal artery occlusion (BRAO) is a common vascular occlusive disorder of the eye.¹ Visualisation of emboli on

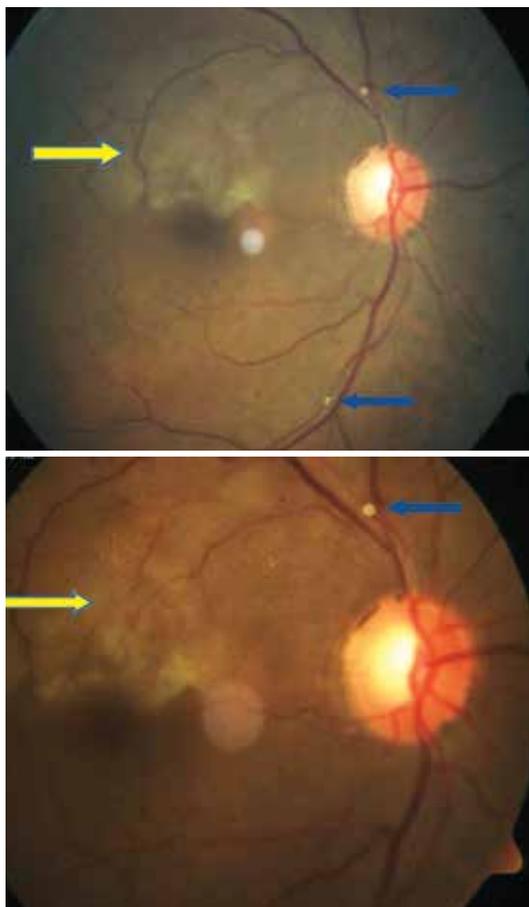


Figure 1: A & B

fundus imaging is variable as reported to be seen in 14.5% eyes with retinal arterial occlusions at least once during multiple visits and in 69% cases, the plaque was not successively visible at all of the visits.² A number of therapies have been tried with variable results in the treatment of BRAO. These include carbogen inhalation, acetazolamide infusion, ocular massage, and paracentesis, as well as various vasodilators as done in our patient.^{3,4} Retinal artery occlusion for longer than about 240 min results in irreversible, massive retinal damage.⁵ In our case, the patient presented to us 05 days after onset of profound visual loss, which resulted in sub-optimal recovery of vision but further systemic mortality/morbidity was prevented with timely management in form of cardiology consult and anti-coagulation therapy. Despite presence of emboli in inferotemporal retinal arteriole, it escaped infarction as size of embolus was smaller which prevented complete obstruction of circulation in its area of distribution. In this case, we have documented symmetrical hollenhorst emboli leading to BRAO; a rare phenomenon presenting late with sub-optimal recovery of vision.

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Address for correspondence

Ashok Kumar MS

Army College of Medical Sciences & Base
Hospital Delhi Cantt, New Delhi - 110010, India
Email id: smileashok@rediffmail.com



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