An unusual presentation of retinal migraine: a case report

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ABSTRACT

Background: Retinal migraine is a type of migraine with aura. It is a rare entity which presents as monocular symptoms, such as scotomas or blindness followed by headache phase of migraine. There are wide varieties of causes for monocular vision loss ranging from benign causes to very serious causes of blindness.

Case Presentation: This is a case of 26-year-old female who presented with recurrent attacks of unilateral vision loss but it was not followed by headache which is a rare entity. On investigations, her complete blood picture, liver function tests, renal function tests, erythrocyte sedimentation rate, C-reactive protein, electrocardiography, echocardiography, anti-neutrophil antibody, carotid Doppler, and magnetic resonance imaging of brain were all normal.

Conclusion: The diagnosis of retinal migraine was established and the patient was reassured and counseled in detail with the advice of follow-up.

Keywords: Migraine, transient vision loss, retina, aura.

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Background

Retinal migraine is a subtype of migrainous headache which presents as transient or permanent monocular vision disturbances that can include scintillations, scotomas, or blindness. The cause of retinal migraine presenting as blindness is not well understood but there are different hypotheses present. It is usually associated with migrainous headache but it is not a rule of thumb. Here is one such case in which patient presented with unilateral vision loss without associated headache.

Case Presentation

A 26-year-old female of normal weight and height, non-smoker, unmarried, with previously no known pre-morbid conditions, presented with complain of sudden recurrent episodes of blindness in her right eye. She complained of 7–8 episodes of blindness in 30 hours time period. Each episode lasted for around 5 to 7 minutes with spontaneous and full recovery. She mentioned that in each episode, she experienced that a white curtain like blindness that starts from inner aspect of right eye and progressively spreads toward outer aspect to involve whole eye. These were not associated with any flashes of lights, tingling, numbness of face, fever, or headache. She was asymptomatic between episodes. According to her, there was normal vision of her left eye during these episodes which she checked by covering her both eyes alternatively with palm of her hands. The only significant past was that she had two episodes of migrainous headache 3 years back which were resolved spontaneously with no recurrence. There was also no significant family history. There is no history of any drug intake or alcohol use. On examination, she was vitally stable with blood pressure of 110/80 mmHg, pulse of 85 per minute, afebrile and respiratory rate of 16 per minute. There was no lymphadenopathy and jugular venous pulsation was not raised. On examination of cranial nerves, visual acuity was 6/6 with normal visual fields and perimetry. Fundoscopy was also normal. Other systemic examination was also unremarkable. On investigations, her complete blood picture, liver function tests, renal function tests, erythrocyte sedimentation rate, anti-neutrophil antibodies, electrocardiography, trans-thoracic echocardiography, carotid Doppler, and magnetic resonance imaging of brain with contrast were normal. So, depending upon the detailed history, examination and investigations, the diagnosis of retinal migraine was made according to international classification of headache disorders, 3rd edition (1.2 migraine with aura; 1.2.4 retinal migraine). International classification of headache disorders included retinal migraine as a subtype of migraine with aura. The patient was not given any drug treatment and was just reassured and counseled about the diagnosis and advised follow-up if symptoms recur. The patient followed after a month and she was alright with no symptoms at all.

Discussion

The patient was finally diagnosed as a case of retinal migraine which is a rare entity. She presented with transient and recurrent episodes of monocular visual loss. She was reassured and counseled in detail.

To best of the author's knowledge, most of the case published up to date; patients usually present with visual loss starting from outer aspect of eye and is associated with headache. The patient presented with two rare features that visual loss starts from inner aspect of eye and was not associated with headache [1,2].

Retinal migraine is a rare subtype of migraine with aura [3]. It can be defined as transient monocular visual disturbance that can include scintillations, scotomas, or blindness [1]. Mostly, it is prevalent in women of child bearing age who usually have history of migraine [4,5].

Retinal migraine is also known as ocular migraine or anterior visual pathway migraine [5]. Pathogenesis of retinal migraine caused by arteriolar vasoconstriction is unclear and most widely accepted view includes the reduced blood supply to optic nerve or eye due to vasospasm [1,2,6].

Transient visual loss can be caused by vascular disease that may include carotid artery occlusion and thromboembolism or it may be caused by migraine [7]. Other causes of visual loss must be ruled out before making diagnosis of retina migraine; for example, systemic lupus erythematosus, anti-phospholipid syndrome, giant cell arteritis, polyarteritis nodosa, and eosinophilic vasculitis depending upon age and clinical presentation [2].

Retinal migraine can present in a variety of symptoms. Some patients experience negative symptoms such as visual loss that may include white, grey, black, or shaded areas that may have sudden appearance or it may be progressively moving inwards from peripheral visual field. Patients may have positive symptoms as flashing lights or scintillating scotomas [1]. Visual symptoms may last for 5 minutes to 1 hour, and there is usually full recovery but some cases have shown that there can be permanent visual loss [4,6].

Although it is usually followed by migrainous headache after 30–60 minutes of visual symptoms, it is well documented in literature that visual symptoms can occur alone in absence of headache [1,2].

Studies have shown that there is close association between retinal migraine and other factors, such as ischemic stroke in female, smoking, and oral contraceptive use as retina can be considered as a part of central nervous system [6].

First line treatment includes life style changes, smoking cessation, avoidance of alcohol and caffeine, and control of hypertension. If these are not helpful, then calcium channel blockers, such as nifedipine and verapamil are other treatment options in the absence of other contraindications. Beta-blockers should be avoided [5]. If the episodes of visual symptoms are infrequent and are not disabling, then management includes reassurance and follow-up [1]. Anxiety and anxiety-provoked headache related with recurrent visual loss can be relieved simply by diagnosis and counseling [8].

Conclusion

Migraine is a very common disease, especially in young female of child-bearing age. It has a rare subtype that includes retinal migraine and it is a diagnosis of exclusion. For retinal migraine, symptoms should always be monocular [1].

Early diagnosis of retinal migraine is very important to avoid un-necessary investigations and over treatment of patient as it can simply be managed by reassurance and counseling.

The two rare aspects seen in the patient include visual loss starts from inner aspect of eye although most case presents with vision loss that starts from outer edge and second entity that it was not associated with headache and most cases published that retinal aura is usually followed by headache phase.

Consent for publication

None.

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Summary of the case

1	**Patient (gender, age)**	Female, 26 years old
2	**Final Diagnosis**	an unusual presentation of retinal migraine: a case report
3	**Symptoms**	Sudden temporary blindness in one eye
4	**Medications**	Reassurance
5	**Clinical Procedure**	Nil
6	**Specialty**	neurology