

## Early Diagnosis of Eales Disease

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**We report a case of a 29-year-old Bahraini male, healthy and a smoker who presented with photophobia in both eyes, more in his left eye for seven days after upper respiratory tract infection, no associated systemic symptoms. This is the first reported case of this pathology from our institution.**

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Eales disease is an idiopathic inflammatory venous occlusion that primarily affects the peripheral retina of young adult<sup>1</sup>. It is rare in developed countries, but common in the Indian subcontinent with an incidence of one in 200 to 250 ophthalmic patients<sup>2</sup>. The disease mainly affects males between 20 to 40 years and tends to be, more often, bilateral. The clinical symptoms in most patients include intraocular inflammation, recurrent vitreous hemorrhage and retinal neovascularization. Bleeding from neovascularization is common, usually recurrent and is one of the major causes of visual loss in such cases<sup>3</sup>. Vitreous hemorrhage is a major manifestation of this disease, and it is the major cause of visual impairment in patients suffering from Eales disease. The treatment for Eales includes corticosteroids, photocoagulation with or without retinal cryoablation and vitrectomy<sup>3</sup>. The true pathophysiology of this condition still unknown. It has been speculated that it is a manifestation of many diseases. Tuberculosis has been favored by many; however, none has shown any evidence of direct infection of the eye by tuberculosis bacteria<sup>1-4</sup>.

The aim of this case report is to highlight the importance of full evaluation to identify rare and uncommon conditions which could lead to visual loss.

### THE CASE

A twenty-nine-year-old male smoker with no known medical illness presented with painful eyes, more in the left eye for seven days. He had upper respiratory tract infection two weeks ago, for which he was treated; he had a similar episode in the same eye three months earlier and was treated at the local health center. On examination, his Visual Acuity: Without Glass OD: 6/6, OS: 6/7.5, Full Auto Tonometer: OD-IOP: 19.9mmHg OS-IOP: 21.4mmHg, conjunctiva: ciliary injection OU, cornea: fine dust Keratopathies OU, no iris nodules were seen, Anterior Chamber: +1 cells flares +1 OU vitritis +1 OU, fundus: inferior Roth spots 3 OD, OCT macula was within normal ranges, labeled as pan uveitis. The next day, Roth spots were seen in the left eye.

The Fundus Fluorescein angiography showed diffuse peripheral ischemia and periphlebitis of small caliber vessels

with superficial retinal hemorrhages in both eyes. Erythrocyte Sedimentation rate and C-Reactive Protein were both mildly elevated; Antinuclear Antibody profile was positive suggesting an autoimmune disease.

The diagnosis of exclusion confirmed Eales disease. IV methylprednisolone 1gm for three days was initiated. Pan retinal photocoagulation laser was performed for both eyes, see figures 1 (A to D) and 2 (A to D). The patient's condition improved gradually after four days. Anterior chamber showed occasional cells, vitritis +1 and Pan retinal photocoagulation scars without the presence of Roth spots. Follow-up after two months, the patient's visual acuity totally recovered with quiet and deep anterior chamber. Fundus Fluorescein Angiogram after two months showed no signs of retinal ischemia, see figures 3 (A to D) and 4 (A to D).



Figure 1 (A)

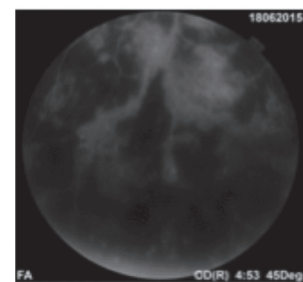


Figure 1 (B)

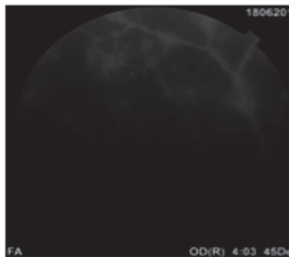


Figure 1 (C)

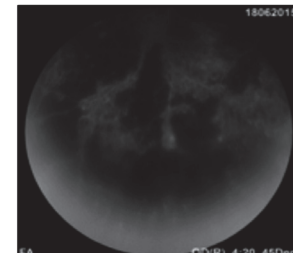


Figure 1 (D)

**Figure 1 (A to D): Fundus Photograph Right Eye (1 A), Multiple Fundus Fluorescein Angiogram (1 B, C, D) before Retinal Photocoagulation Revealed Extensive Leakage and Active Periphlebitis**

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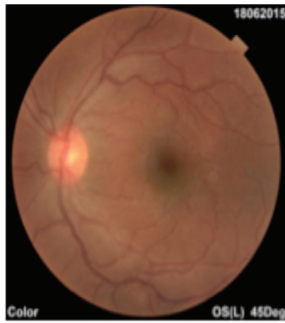


Figure 2 (A)

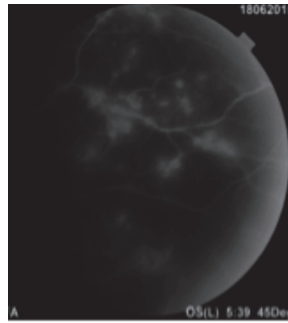


Figure 2 (B)



Figure 2 (C)

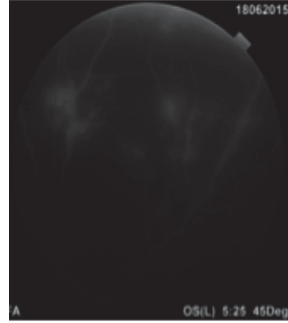


Figure 2 (D)

Figure 2 (A to D): Fundus Photograph Left Eye (2 A), Multiple Fundus Fluorescein Angiogram (2 B, C, D) before Retinal Photocoagulation Revealed Extensive Leakage and Active Periphlebitis



Figure 3 (A)

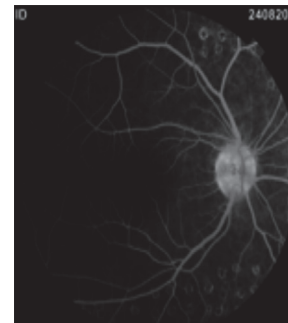


Figure 3 (B)

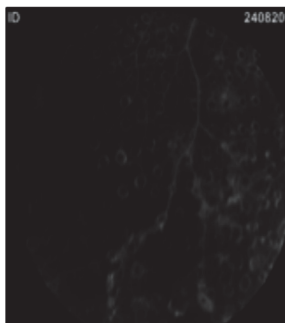


Figure 3 (C)

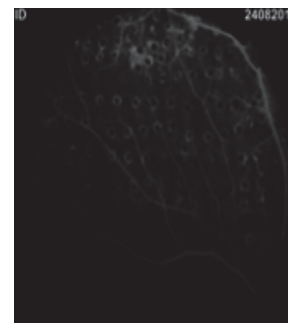


Figure 3 (D)

Figure 3 (A to D): Fundus Photograph Right Eye (3 A), Multiple Fundus Fluorescein Angiogram (3 B, C, D) after Retinal Photocoagulation

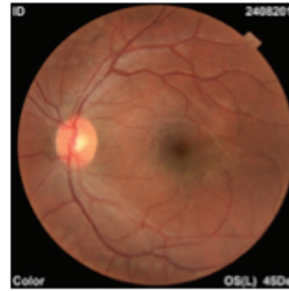


Figure 4 (A)

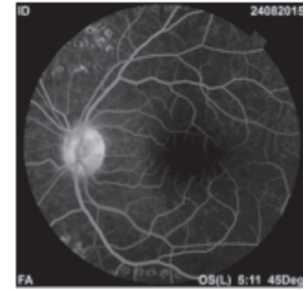


Figure 4 (B)

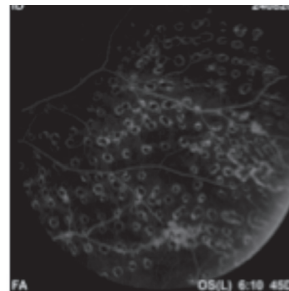


Figure 4 (C)

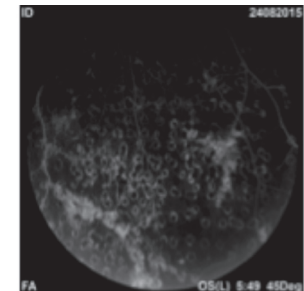


Figure 4 (D)

Figure 4 (A to D): Fundus Photograph Left Eye (4 A), Multiple Fundus Fluorescein Angiogram (4 B, C, D) after Retinal Photocoagulation

**DISCUSSION**

Eales Disease is an idiopathic perivasculitis that affects the peripheral retina<sup>5</sup>. It is mainly seen in young, healthy, adult males between 20 and 30 years<sup>6</sup>. The majority complain of floaters, cobwebs, blurred vision, small specks in the visual field and decreased visual acuity<sup>5-6</sup>.

The etiology of Eales disease is still unknown<sup>7</sup>. Tuberculosis has been associated with Eales disease either active or healed<sup>5-7</sup>. The exact association of tuberculosis and Eales disease is unknown. Eales disease is difficult to diagnose because it mimics many conditions. Many systemic diseases are associated with Eales disease<sup>8</sup>.

Systemic proliferative vascular retinopathy mimicking Eales disease could be diabetes mellitus, sarcoidosis and sickle cell disease<sup>8</sup>. Proliferative vascular retinopathy mimicking Eales disease could be branch of central retinal vein occlusion, central retinal vein occlusion, Coat's disease, Pars Planitis and Draggad Disk Syndrome<sup>8</sup>.

In most cases, one eye is involved, but there have been reported cases of involvement of both eyes<sup>9</sup>. Das et al found that neovascularization is the main reason for recurrent bleeding and is one of the major causes of vision loss<sup>3</sup>. Due to unknown cause for Eales disease, it is diagnosed by the exclusion of other conditions.

Steroids, laser photocoagulation and vitrectomy are the primary treatments for Eales disease. Steroid injections are used for the inflammation of the vascular areas. Photocoagulation has been successful in preventing hemorrhage. Vitrectomy treatment is useful when hemorrhage fails to clear from the vitreous and helps restore vision. The normal course of treatment involves

steroid injection, laser photocoagulation and freezing (or cryopexy)<sup>7-13</sup>. Patients should be screened for diabetes mellitus, tuberculosis and sickle cell disease<sup>14,15</sup>.

## CONCLUSION

**Diseases of the retina, although rare, could have detrimental effects and even blindness if untreated. Early recognition of Eales disease could save the patients' vision. Although there is only slight association of Eales disease and tuberculosis, an investigation to rule out the link is necessary.**

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**Competing Interest:** None.

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