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Eales' Disease Mimicking a Proliferative Diabetic Retinopathy

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Abstract

Introduction *– Eales' disease is an idiopathic venous occlusive vascular of the peripheral retina, affecting mostly young male adults. It is considered as a diagnosis of exclusion since it is a very rare entity. This article reports a case of a patient with Eales' disease that was confused with proliferative diabetic retinopathy.*

Observation. *– a 54 years old man with a history of type II diabetes who presented a moderate decrease in visual acuity more badly on the right eye.*

Results. *– ophthalmologic examination of the right eye showed a retinal detachment; whereas an occlusive vascular aspect of the peripheral retina appears on the left eye. The clinical, angiographic and biological arguments made it possible to make the diagnosis of eales' disease.*

Discussion. *– Eales' disease is a rare condition that mostly affects young adults. It is characterized by bilateral visual loss due to recurrent vitreous hemorrhage. Prognosis and treatment depend on the stage and the severity of the disease.*

Conclusion. *– Although Eales' disease is rare, it must be thought about as a diagnosis of exclusion.*

Keywords: *Eales' Disease- Vasculitis- Retinal Periphlebitis*

Introduction

Eales' disease is an idiopathic inflammatory venous occlusion that primarily affects the peripheral retina of young men. It was initially described by Henry Eales in 1880, this british ophthalmologist mentioned a common history of headache, epistaxis, variation in peripheral circulation and chronic constipation in a group of 7 young men and concluded to a vasomotor neurosis. Five years later, Wardsworth associated these signs to retinal inflammation **(**1**).** Later on, Henry eales had been honored with the eponym. A number of latest researchers have recently documented various clinical and pathological features of this condition. Eales' disease is characterized by three main retinal changes which are: perivascular retinal phlebitis, peripheral non perfusion areas and neovascularization.

Vision loss is usually caused by bilateral and recurrent vitreous haemorrhage and its sequelae, but the normal course of the disease is variable between remission in some cases or total blindness in others. Treatment might be different from a patient to an other depending on the form and the severity of the affection.

Observation

This is a 54 years old man who suffered from type two diabetes under insulin therapy from 20 years, he presented a sudden painless fall in visual acuity in the right eye that occurred one month before admission. He reported 2 episodes of sudden spontaneously resolving visual acuity drop over the past six months. We noticed a tuberculosis contagion in the patient's history. Ophtalmologic examination found visual acuity in the right eye at 20/4000 and left eye at 20/25 P2.

Biomicroscopic examination of the right eye found a normal anterior segment, eye pressure at 11 mmhg with total retinal detachment with vitreo-retinal proliferation **(**fig 1**)**. Examination of the left eye showed a normal anterior segment with eye pressure at 12 mmhg, vascular encasements and spotted retinal hemorrhages on the fundus **(**fig 2, 3 and 4**)**.

Fluorescein angiography revealed periphlebitis of the peripheral veins of the retina **(**fig6**)** with diffused peripheral ischemia over 360° going from the equator and arriving to the extreme periphery **(**fig 5 -8**)**, multiple new vessels were also present at the level of the posterior pole and the periphery **(**fig 5,7,8 and 9**)**. Otherwise, no focus of retinitis nor associated choroidal abnormality were found. The macular OCT did not show exudative signs or epi-macular membrane in the left side.

A biological assessment was requested. Tuberculine IDR was positive at 25mm and QuantiFERON was highly positive. Markers of inflammation were elevated **(**CRP at 30 mg / l and ESR at 60 mm / h**)**. The immunological markers **(**rheumatoid factor, anti-citrullinated peptide antibodies, antinuclear antibodies and anti-neutrophil cytoplasm antibodies**)** were negative. Serological tests for herpes simplex, herpes zoster, syphilis, Lyme disease and HIV as well as toxoplasmosis came back negative. Also the biological tests of thrombophilia were all normal. Finally, a cardio-vascular exploration with a cardiac ultra-sound echography didn't find any abnormalities such as ischemic cardiopathy. Thus, the diagnosis of Eales' disease was retained.

A 9 months anti bacillary treatment associated with oral corticosteroid therapy was prescribed. A laser photocoagulation of the ischemic areas of the left eye was performed as well. We have noticed a good outcome one month later with complete disappearance of the neo-vessels **(**fig 10-12**)**.

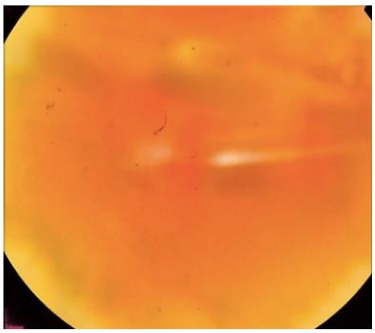

Fig 1 : Retinal Detachment Right Eye

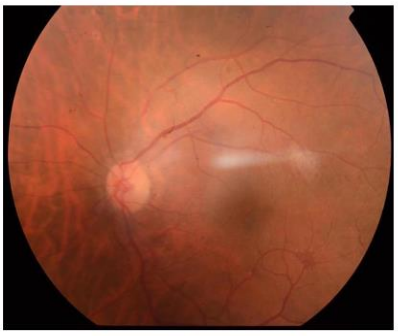

Fig 2 : Fundus of the OS

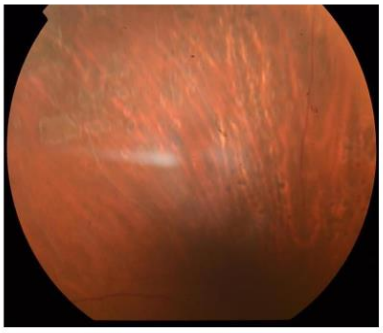

Fig 3 : Superior quadrant OS

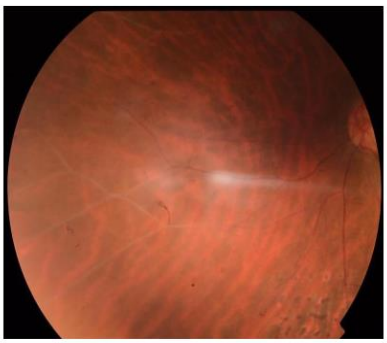

Fig 4 : Nasal Quadrant OS

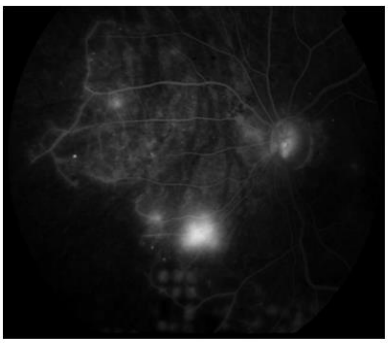

Fig 5 : Early Angiography Fundus

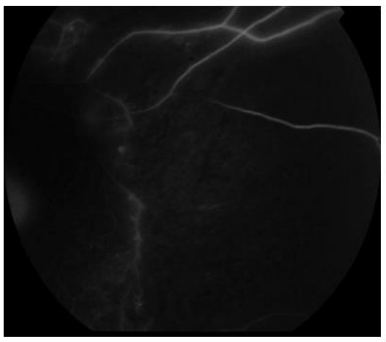

Fig 6 : Peripheral Periphlebitis

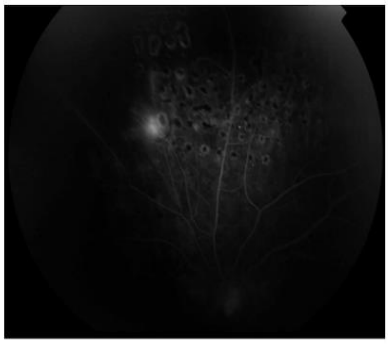

Figure 7 : Superior Quadrant

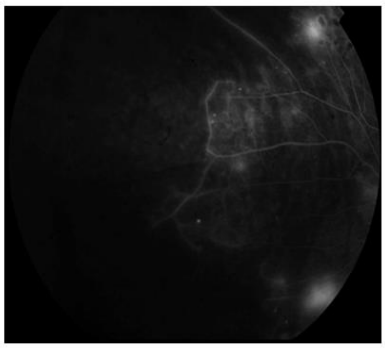

Figure 8 : Nasal Quadrant

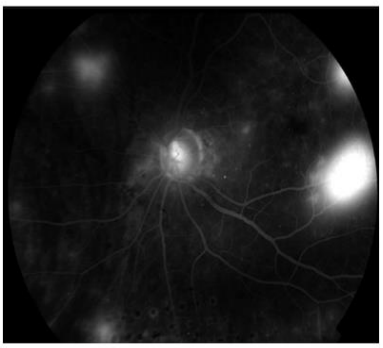

figure 9 : Late Stage Angiography

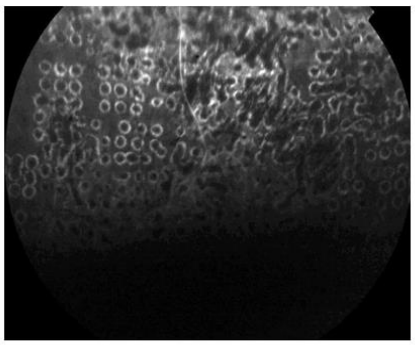

Fig 10 : Post PPR Superior Quadrant OS

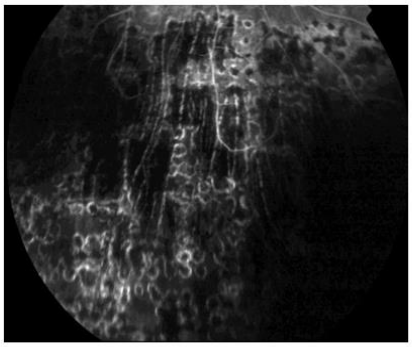

Fig 11 : post PPR Inferior Quadrant OS

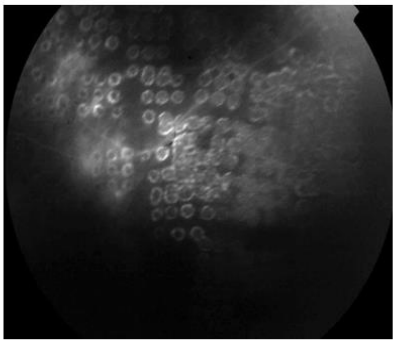

Fig 12 : Post PPR Temporal Quadrant OS

Discussion

The Eales' disease is an idiopathic inflammatory venous occlusion that affects the peripheral retina of young adults. It is rare and more frequent in the subcontinent. Researchers found out that it is a cell-mediated immune reaction for the M. tuberculosis **(**2, 3**)**.

The symptoms are mostly bilateral including small specks, floaters, cobwebs, decrease in visual acuity related to the vitreous hemorrhage. Sometimes, patients might complain in symptoms in one eye. The fundus examination found abnormalities such as periphlebitis, vascular sheathing and peripheral non perfusion areas that stimulates growth of new vessels and causes vitreous hemorrhage.

The diagnostic of Eales' disease is based on the clinical feature of peripheral venous inflammation. The fluorescein angiography shows the non-perfusion areas and new vessels **(**4**)**. The natural course of eales' disease is variable, that fact leads to different prognosis's severity **(**5**)**. Charmis 15 classified Eales' disease into 4 stages **(**6**)**: stage I with mild periphlebitis of small peripheral retinal capillaries, in stage II larger veins are also affected, stage III is characterized by new vessels that leads to retinal vitreous hemorrhage **(**7**)**. Finally, stage IV is the ultimate one with severe complications and tractional retinal detachment.

The treatment of eales' disease is mainly symptomatic and based on a lot of modalities **(**8,9**)** such as corticosteroids, anti-VEGF therapy, photocoagulation of non-perfusion areas and surgery for complications. Antitubercular treatment is not systematic, it is reserved for patients with acute phlebitis and complete obliteration. Usually, the 9 months' protocol is the one implemented in this case.

Conclusion

Although eales' disease is rare and affects mostly young adults, it must be recognized as a possible diagnosis of exclusion if all other causes were already eliminated. Also, a regular follow-up associated with new therapies might improve the prognosis which strongly related to the stages of the disease.

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