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MANAGEMENT OF EALES' DISEASE GRADE III B: A RARE CASE

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Abstract

***Introduction**: Eales' disease is an idiopathic, bilateral, occlusive retinal vasculopathy that primarily affects young, predominately male patients. It seems to have multiple causes and is probably immunologic in nature. Recurrent vitreous hemorrhages, macular degeneration, and tractional or mixed retinal detachments involving the macula can all cause some patients to experience severe vision loss.*

***Case Report**: A 39-year-old male with vitreous hemorrhage caused by Eales Disease grade III B with an initial visual acuity 1/300 came to our department. Ultrasound imaging showed the membrane like lesion with 1/2 retinal reflectivity, after moderate movement and vitreous hemorrhage on both eyes. The photo-fundus showed there is decreased fovea reflex and perimacular exudate with visible contours of sclerotic blood vessels, visible cotton wall spot, and macroaneurysm. There is also haze grade 3 on media, visible folds in the inferior part, visible shadows of cotton wall spots. The patient underwent pars plana vitrectomy with endolaser to manage the disease.*

***Discussion**: In this case, patient was diagnosed as vitreous hemorrhage caused by Eales Disease grade III B on both eyes but it getting worse on left eye further. We chose to perform PPV with endolaser on right eye. Based on improved visual acuity and less hemorrhage, the right eye's outcome was favorable, while the left eye, which was not treated, had a worsening of the situation. Only eyes with a non-resolving vitreous hemorrhage after three months should have a vitrectomy.*

***Conclusion**: The treatment of this patient's case produced good anatomical and functional outcomes for the right eye, but the left eye, unfortunately, has a major issue. In order to further confirm the results, longer follow-up is still required.*

Keywords: eales disease, pars plana vitrectomy, silicon oil, endolaser

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INTRODUCTION

Eales' disease is an idiopathic, bilateral, occlusive retinal vasculopathy that primarily affects young, predominately male patients. It seems to have multiple causes and is probably immunologic in nature.[1,2] Depending on how the process develops, it can lead to significant areas of non-perfusion, neovascularization, changes in vitreous' structure, and changes in how the vitreous interacts with the retina manifesting as a myriad of signs including sight-threatening complication such as recurrent vitreous hemorrhages, macular degeneration, and tractional or mixed retinal detachments which may or may not regress.[1,3]

The majority of the diagnosis is clinical, and it calls for ruling out any other ocular or systemic disorders that might exhibit comparable retinal symptoms. When the disease is in an active inflammatory stage, oral corticosteroids are used as medical treatment. When the condition is in an advanced stage of retinal ischemia and neovascularization, laser photocoagulation is used as medical treatment.[1,4]

CASE REPORT

A 39-year-old male was referred to our vitreoretinal clinic, complaining a slow progressive blurred vision on right eye since ± 6 month ago. There was also complaint of seeing the view was like the closed curtains and flying objects.

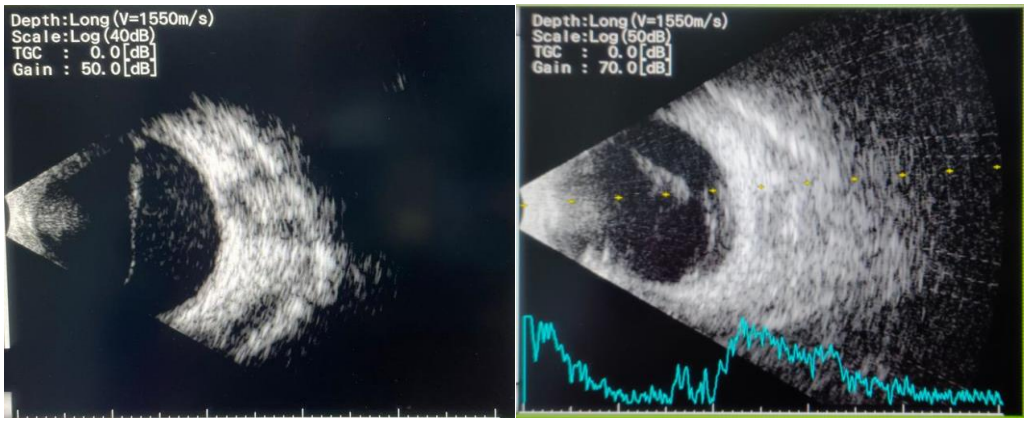

Figure 1. **Transpalpepbral ltrasound Imaging (June 7, 2022)**

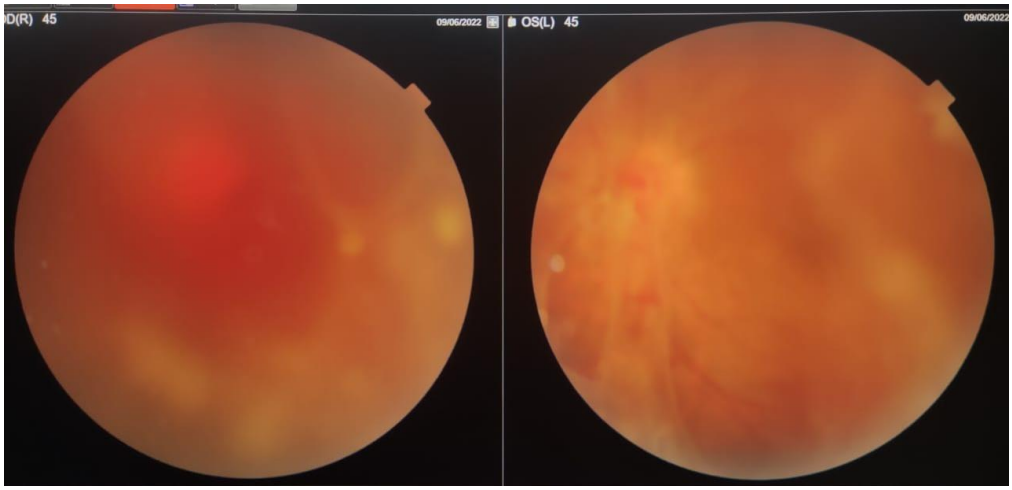

Figure 2. **Photo-Fundus (June 7, 2022)**

The complaint of red eyes, epiphora and discharge were denied. Since ± 1 month ago, blurred vision getting worse and was also complaint of seeing the view was like the closed curtains and flying objects. The complaint of red eyes, epiphora and discharge were denied. He had no history of systemic disease and surgery that might contribute to this disease.

At initial visit, the visual acuity was 1/300 in the right eye and 2/60 ph (-) in the left eye. The anterior segments is within normal limit but posterior segments were unremarkable except found haze grade 4 in right eye and haze grade 3 with papillary shadow on papil examination in left eye.

Transpalpebral ultrasound imagingshowed the membrane like lesion with 1/2 retinal reflectivity, after moderate movement and vitreous hemorrhage on both eyes.

The photo-fundus showed there is decreased fovea reflex and perimacular exudate with visible contours of sclerotic blood vessels, visible cotton wall spot on 4 quadrants, and macroaneurysm on 1 quadrant as well as a demarcation line in the inferior in right eye. There is also haze grade 3 on media, papil and macule hard to be assessed and visible folds in the inferior part, visible shadows of cotton wall spots 3 quadrants. There was also the shadow of a macroaneurysm 1 quadrant in left eye. Laboratory findings in normal limit.

Of all the examination results were established the diagnosis vitreous hemorrhage caused by Eales Disease grade III B on both eyes, and then managed with pars plana vitrectomy with endolaser. The patient was diagnosed with vitreous hemorrhage caused by Eales Disease grade III B on both eyes, and then managed with pars plana vitrectomy with endolaser.

Follow up on June 21, 2022 obtained visual acuity was 6/21 PH (-) in the right eye and 3/60 ph (-) in the left eye and it concluded visual has improved and pain in right eye is no longer felt. In The photo-fundus which was originally haze because the bleeding is now clear and can be assessed.

Transpalpebral ultrasound imaging showed the membrane like lesion with 1/2 retinal reflectivity, after moderate movement and vitreous hemorrhage as well as detachment retina in left eye. OCT imaging showed macule oedema OS.

The patient then was diagnosed with post pars plana vitrectomy and endolaser of right eye on indication of vitreous hemorrhage caused by Eales Disease grade III B, macule oedema, dd/ CSCR OD and vitreous hemorrhage + retinal detachment OS caused by Eales Disease grade IV A. Patient was managed with prednisolone eye drops 1 drop/4 hours OD, levofloxacin eye drops 1 drop/4 hours OD and pro PPV + SO+EL OS.

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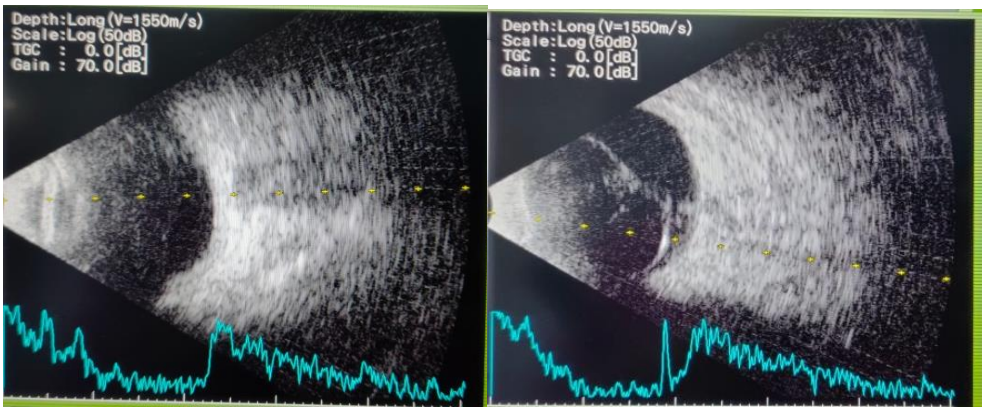

Figure 3. **Transpalpepbral ltrasound Imaging (June 21, 2022)**

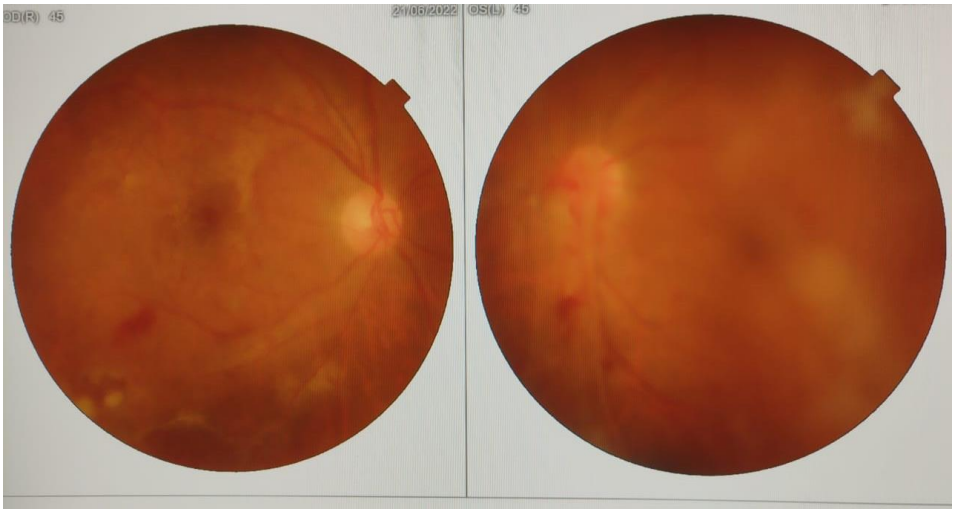

Figure 4. **Photo-Fundus (June 21, 2022)**

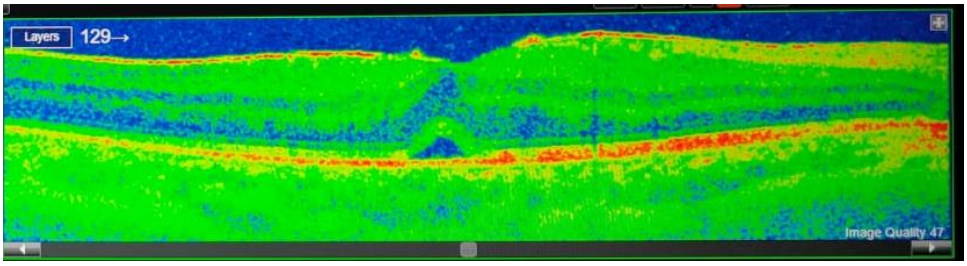

Figure 5. **OCT of Left Macule (June 21, 2022)**

DISCUSSION

Eales' Disease is a rare primary perivasculitis of the retina.[5] Although fundoscopic abnormalities are frequently found bilaterally, patients typically appear with complaints of decreased visual acuity, floaters, or vitreous bleeding in one eye.[5,6] Retinal phlebitis, peripheral nonperfusion, and retinal neovascularization are the three overlapping stages of Eales disease, an idiopathic venous occlusive condition.[5] Stage I of the condition is marked by mild retinal periphlebitis, stage II by vitreous haze, stage III by hemorrhage in the retina and vitreous, and stage IV by traction retinal detachment to rubeosis iridis, neovascular glaucoma, complex cataract, and optic atrophy.[2,3] In this case, patient was diagnosed as vitreous hemorrhage caused by Eales Disease grade III B on both eyes but it getting worse on left eye further.

Of the various etiologies current literatures proposed, tuberculosis and hypersensitivity to tuberculoprotein are the most favored.[4] The patient had no remarkable history of systemic disease and surgery. The precipitating factors in this case are still unknown, thus additional testing is necessary, including lysozyme, syphilis, tuberculin skin testing, antinuclear antibody, antineutrophil cytoplasmic antibody, and other pertinent assays. In this case, we chose to perform PPV with endolaser on right eye. Another alternative is encircling belt-buckle which may improve the surgical outcomes in the presence of peripheral tractional membranes, especially in younger phakic patients with clear lenses. Anti-VEGF drugs like bevacizumab have been used as adjuvants to vitrectomy in cases like this. Although bevacizumab cannot replace vitrectomy for vitreous hemorrhage in Eales disease and can have tractional problems, it has been used as an adjunct to vitrectomy.

The outcome was good on right eye with a UCVA of 6/21 based on better visual acuity and decreased hemorrhage, but in the left eye, which not treated, worsen outcome occurred. Not reaching the expected

clinical improvement or visual acuity after vitrectomy warrants further evaluation to identify the underlying cause and should be managed accordingly. In a study including 30 patients, Abu El-Asrar and Al-Kharashi discovered that severe Eales' disease treatment, including full panretinal photocoagulation, early vitrectomy, systemic steroids, and anti-tuberculous medication, may enhance the anatomic and visual results. Only eyes with a non-resolving vitreous hemorrhage after three months should have a vitrectomy.[7,8]

The main factor contributing to Eales' disease's poor visual prognosis is recurrent vitreous hemorrhage. Endolaser application is required following vitreous surgery. On occasion, further operations like lens removal and belt buckling are needed. The majority of patients who underwent simple pars plana vitrectomy reported an improvement in visual acuity. Early cataract formation, secondary glaucoma, and rhegmatogenous retinal detachment are the three main surgical problems.[4,9]

Visual prognosis is generally favorable when medicinal and surgical therapy options are used wisely.

CONCLUSION

In conclusion, the management of this patient's case showed good results in both anatomic and functional outcomes for right eye, but unfortunately left eye is on serious problem. Longer follow up is still needed to further corroborate the outcomes.

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